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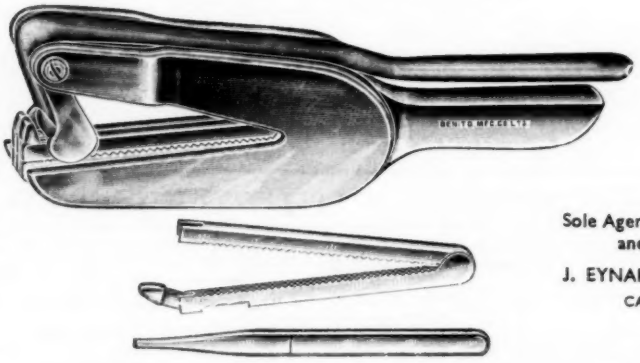

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IN pre-war days the most striking results from research in medicine were produced by brilliant individuals working with scant assistance, little money, and very limited time, for nearly all had as their main jobs university teaching and/or honorary hospital appointments. They invented their own apparatus and in many cases made it. Of this class in our own University of Aberdeen were Ogston (whose mantle as president of the association, when it last met here in 1914, weighs heavily on my shoulders tonight), the discoverer, in the days of Lister, of the *Staphylococcus aureus*, which he used to describe in his quaint way as a "kindly little creature" compared with the virulent streptococcus; MacWilliam, the physiologist, whose classical work on cardiac muscle provided the foundation on which the brilliant clinical work of Mackenzie and Wenckebach was built; Hamilton, a great pioneer in pathology and bacteriology and a brilliant lecturer; Cash, pharmacologist of aconitine and arrow poisons.

All were enthusiastic and able teachers of my student days and stimulators of capable youth to follow in their steps. I shall mention only a few of those that readily occur to me: in surgery Greig Smith, Scott Riddell, Marnoch, and Henry Gray; in physiology and biochemistry Leslie Mackenzie, Macleod (the initiator and head of the team which so brilliantly solved the insulin problem), Hugh MacLean, and Lawrence; in pathology and bacteriology Bulloch, Dean, and Ledingham; in pharmacology Cushny and Dilling.

The output was small in those days as compared with the present, but the quality was usually very high. Similar work was being done in such circumstances in many of the medical schools of the country. In the post-war period both patient and practitioner are on many occasions simultaneously informed—through the press, shall we say?—of the most recent discovery, which is a source of embarrassment to the practitioner if he does not recognise that the latest knowledge is not always the latest truth. In this period came a greater recognition by the state of the value of research, with a consequent outpouring of money on its behalf, and large sums were given by individuals to endow research and provide fellowships to support brilliant graduates for longer periods than was possible before.

Research is no longer an individual affair as a rule; teamwork now prevails, and elaborate equipment, suitable accommodation, and skilled assistance are provided. The output has increased and there is earlier publication of results, which has been one of the factors in increasing the number of specialists who can sift the facts of research and assess their applicability to the practice of medicine, and advise and instruct the general practitioner who calls for their assistance in his difficulties. No doubt increased output and earlier publication have necessarily lowered the average of quality, but classical quality is still present—for example, insulin and probably the sulphonamide group.

The British Medical Association's committee on nutrition has given much useful knowledge to practitioners and the public. The pre-war practitioner can recognise the great improvement in the variety of food, and there is no doubt that nutrition has been in the limelight in post-war years, with considerable benefit as a result. There is still lacking, however, in an important section of the population, a practical knowledge of food values and possibly a real knowledge of and interest in cooking. This leads to a diminution in nutritive and reparative value and to the use of canned or bottled foods in increasing amount, even where fresh food is available at cheaper or at least more economic rates from the point of view of health and sustenance.

* * *

There have recently appeared in our local press reports on the condition of the teeth of school-children in country districts. One education committee stated that less than a tenth of its school-children had perfect teeth, and the only remedy suggested was the appointment of additional dentists. In October, 1914, I took part in the examination of a county battalion of territorials from the same area, under immediate orders for France. My colleagues and I noted that about 70 per cent. of the men had excellent teeth, a finding which reveals a sad deterioration, in a quarter of a century, in a most important factor in healthy nutrition. Yet there seems to be no need to despair, for I feel sure that the pre-war doctor, from his post-war experience, will agree that there has been great improvement in general health and that it is steadily progressive, with increasing momentum.

This opinion is supported by the present Minister of Health, replying to a debate in the House last March, when he spoke as follows:

"A great deal of action has been taken on the newer knowledge of nutrition, and there is a marked improvement in the health of the nation. This country consumes a large quantity of dairy produce. If butter and cheese were counted as the equivalent of milk, the consumption of milk per head in this country has risen from 73 gallons in the five-year period 1925–29 to 89 gallons for the period 1930–34. This figure is higher than that in Italy, Germany, Belgium, France, and the U.S.A. Butter, however, cannot be counted as simply the equivalent of milk; it ranks higher as one of the protective foods. While poverty is a factor in the problem of nutrition it is also true to say that wages have risen and the cost of food has fallen."

He compared figures for 1927 and March, 1939, to show the improvements in the nutrition of the nation. In 1927 the death-rate due to infantile mortality was 70, maternal mortality 4·11, puerperal sepsis 1·57, and tuberculosis 79. Today the death-rate due to infantile mortality is 55, maternal mortality 3·26, puerperal sepsis 0·98, and tuberculosis 56. Had he been speaking on the same subject today he would have been able to introduce rather telling support to the above argument from the reports of medical boards on the health and physique of the many thousands of militia in their twenty-first year recently called up for training. One is ignorant whether and to what extent the standards previously applied to recruits for admission to the Regular Army have been modified, but, even so, the published reports so far point to a great improvement in health and physique.

Speaking in a debate on malnutrition in the House of Lords, Lord Hankey—who for nearly a generation,

* Abridged from the presidential address to the British Medical Association at Aberdeen on July 25.

as Sir Maurice Hankey, was secretary of the Committee of Imperial Defence—remarked that when he held that position he was profoundly shocked and humiliated by the fact that more than half the men offering themselves as recruits for the Army were rejected for physical and medical reasons. He had been assured that the defects which caused the rejections were curable by proper nutrition, but that it took fifteen years to translate research into action. While public health had improved, much remained to be done. In the schools little was taught about nutrition, and what was taught was mostly out of date. With the weight of the Government behind it there should be a sustained campaign or propaganda on the subject. One must keep in mind that the range of choice of recruits is now the widest possible socially, whereas in the days Lord Hankey refers to, apart from the war years, that range was very narrow. Indeed, in a considerable number of cases the stimulus to join the Army was often *faute de mieux*.

* * *

Food is not the only factor, though the most important; improved housing (including workshops); better sanitation; higher wages; shorter hours of work, giving more leisure, which is gradually being better spent; and greater opportunities for leading an open-air life—all are having their effect on the general health of the people. To all this must be added the completely changed daily outlook of the industrial population, a considerable part of which in pre-war days, when unemployed from any cause, soon reached a state of threatening semi-starvation. This change of outlook is due to workmen's compensation for accident, national health insurance, unemployment benefit, and other factors, all of which have had effects on our daily work as medical men.

The decline of emigration from this country is not entirely due to lack of opportunity to enter other countries; it results partly from a definite and widespread recognition of the opportunities offered here for a free and happy life despite the restrictions now being imposed by law and multiplied by the regulations, based on that law, which our bureaucracy determines. As supporting this opinion, one might point to the considerable number of men (and families) who returned to this country during the great slump of 1930 and following years, frankly recognising that life would be more tolerable here than in the United States and in parts of our Empire overseas under the prevailing conditions. Does the same view influence in some degree the gradually increasing number of distinguished oversea medical graduates who come to this country and often obtain high appointments? That we welcome them is evidence of our friendliness and hospitality, a matter which we trust will continue to be fully reciprocated in all parts of the Empire. The Englishman—I omit the Scot on this occasion—has an astonishing sense of fair play, but to the observer he sometimes carries this to such a pitch that he ends by being unfair to himself, with somewhat disappointing results from the point of view of equity.

* * *

In pre-war days it was by no means easy in these parts for the practitioner to persuade patients to enter our hospitals for observation and treatment. This was greatly changed immediately after the war, and nearly all our hospitals have waiting-lists of such size as to be a menace to rapid improvement in health and restoration to full fitness of many on those lists. This menace is perhaps more apparent than real, for many of those waiting suffer from disabilities which do not interfere to a great extent with capacity for work, nor are they progressive. What was this increased attraction of the hospital due to? There was undoubtedly a great outpouring of war-accumulated wealth on charitable purposes, and voluntary hospitals benefited early and greatly from this, and as a result improved in their equipment and administration. This, however, was a matter which took time to develop, whereas the snowball of influx to the wards and the outpatient department started almost immediately after the war, when beds were freed of men wounded or ill from troubles contracted on service. Being in general practice and also on the staff of the Royal Infirmary here, both before and after the war, I had an opportunity of observing this change from a somewhat unusual point of view, at least in a teaching hospital. I concluded that one of the most important factors in the early and rapid rise in the number of applicants for hospital treatment was the fact that enormous numbers of men and women who under peace-time conditions would have been treated in their homes were during the war treated in hospital. A good many millions were removed from their homes on war service, both at home and abroad. When they were wounded or ill, attendance and treatment were a matter of concern to the state and to employers, because their speedy restoration to health seemed more important than ever before, and controlled treatment, such as can best be provided in hospital, became the rule. On the return of these patients to civil life these benefits were not forgotten, and it was apparent that the treatment that could be provided in their homes for certain maladies was unfavourable compared with what they had received during the war for similar types of illness; so not only was there a much readier acceptance of hospital treatment when recommended but also it was very often asked for when there was no real need. This was one of the earliest factors to remove from the minds of many the curious idea that the hospital was a place in which to die rather than to recover.

* * *

All this led to a clamant need for the extension of hospital accommodation. In Aberdeen it was recognised early after the war; but many difficulties had to be overcome before our hospitals reached the capacity they now have. The idea of our joint hospital scheme originated in the brain of the late Prof. Matthew Hay, medical officer of health for the city, and was first declared in our Medico-Chirurgical Society (which this year celebrates the 150th anniversary of its foundation) in the year of the presidentship of the late Sir Ashley Mackintosh, an ardent supporter of the scheme. A committee was formed with the medical officer of health as an active and inspiring member. The first check came when Professor Hay's successor as M.O.H. declined the committee's invitation to join them. It was decided that to ensure success in the raising of the money it was essential that the leading citizen, the Lord Provost, should take a prime interest in the scheme. In the face of lukewarmness, to say the least of it, on the part of the public-health committee of the town council, and owing to the fact that provosts reign for at least three years, it was not until 1927 that Mr. (now Sir) Andrew Lewis agreed in the second year of his office to raise the necessary funds, provided that the scheme had the hearty support of the medical profession. Sir Andrew no doubt acted on his knowledge of the corporation's intention to convert the

poor-law hospital into a large municipal general hospital.

Two meetings of the Medico-Chirurgical Society were held, at both of which I was accidentally in the chair. The first took place in a somewhat electric atmosphere, in which much prolonged and contentious argument ensued, revealing more opposition to the scheme than had been expected. The debate lasted almost to midnight, when the meeting was adjourned for a fortnight and then resumed in a calmer atmosphere. Tempers had by then cooled, and the vote in favour of the scheme was such that Sir Andrew at once took it up. With uncommon wizardry, in two years he collected over £400,000, a very large proportion being provided from the area which the hospital serves and which has a population of about 300,000—a fine achievement. Two future kings were associated with this undertaking: King Edward VIII, when Prince of Wales, laid the foundation-stone in 1928, and our present King, as Duke of York, opened the hospital in 1936. As the hospital neared completion, it was found that £100,000 more would be required to free the building-fund from debt, and again it was fortunate that the stern occasion produced the man. Lord Provost Watt undertook what was recognised as a very difficult task after the way in which the area had already been drained. Such were his energy and enthusiasm that in one year he found the money, and his is one of the names which should be placed high in the infirmary's roll of service.

* * *

This year the British Medical Association holds its 107th annual meeting. The number alone indicates persistent continuity in time, and those who know its history recognise a continuity in purpose and in progressive achievement—a tribute to the vision of those provincial men in Worcester who founded this association in 1832. It is now holding its annual meeting for the second time in this historic city, at its highest peak not only in membership but in influence with the community and the state, its area Empire-wide, and its public spirit second to that of no other similar body. In 1914, when the meeting was last held here, its membership was about 22,000; now it is 38,000. A considerable part of my leisure during forty-one years of practice has been occupied in the work of the association, and it has been a great privilege and an honour to serve it in various capacities during that time. It is true that the quality of that service has varied owing to the restrictions which irregular demands on his time impose on the general practitioner, particularly if in charge of medical wards and engaged in clinical teaching; but the service has always been interested, making the advancement of the association its chief aim.

* * *

Those who practised medicine at the beginning of this century had few evidences of state control such as exists now. Death, lunacy, and vaccination certificates were a state matter, and, later, notification of certain infectious diseases, for which nominal fees were paid, was a municipal matter; but these were the main contacts of the practitioner with the state and the municipality at that time. No striking change came until that stormy petrel of politics, Mr. Lloyd George, then chancellor of the exchequer, appeared on the medical horizon with his national health insurance proposals, and the profession saw itself threatened with a form of control entirely foreign to all its traditions. In the days before the National Health Insurance Act the usual method of starting practice in Aberdeen was to put up a plate and wait for patients. To the young practitioner election as medical officer of a society was a boon; it gave him work on which to build up a reputation and enlarge his experience. The disadvantages, however, were many, among them undignified competition for such posts and no security of tenure. The proposed act removed many of these disadvantages but promised others of unknown effect.

* * *

In 1931 another event occurred in which the altruism of the profession in regard to state and community was again to be demonstrated, and on this occasion it did not fail to impress the Government of the day. This was the attitude of panel practitioners to the proposed salary cuts at the time of the great slump. To the extent of their panel fees panel practitioners were to be considered Government servants. These fees were not salary in the ordinary sense but capitation fees which included all out-of-pocket expenses incurred in attending panel patients. Headquarters were assured by the then Minister of Health that the Cabinet had decided that a 10 per cent. cut on all salaries paid by the state was to be made, and that this cut would be imposed centrally. The British Medical Association through its Insurance Acts Committee held a conference in London of panel practitioners, members and non-members alike, representative of all parts of the country, and after a prolonged debate it was decided, with few dissentients, to accept the proposed course on the assurance given. Parliament, however, did not accept the Cabinet's recommendation. The amount of the cut was not fixed at 10 per cent. all round, nor was it to be imposed centrally in all cases. In many it was left to local authorities to decide the amount of the cut, and in this town some escaped altogether, others had 2½, 5, and 7½ per cent. deducted; on a few only was the 10 per cent. imposed. All panel doctors, however, bore a deduction of 10 per cent. from their fees for attendance on insured patients, and it was imposed centrally. Though there was much argument and much conferring with the Ministry of Health, it was ultimately accepted as a contribution to the National Exchequer in a time of emergency.

* * *

From its foundation in 1832 the British Medical Association has been chiefly concerned with (1) the maintenance of the professional standard of education and conduct (both pre- and post-graduate); (2) promotion of scientific research; (3) promotion of a national public-health policy which will allow the profession to make its maximal contribution to the well-being of the country; and (4) improvement of efficiency in all branches of medical practice at home and abroad. Its work and attainment since 1925 show it to be an increasingly effective force in the promotion of the common health, not only in this country but overseas as well. The first Medical Act of 1858 was based upon a bill drafted by the association, and therefore the association can claim to have been largely instrumental in establishing the General Medical Council.

Promotion of scientific research was instituted in 1900, when there was great need of assistance in this regard on account of lack of funds for medical research both in universities and in hospitals. Committees have submitted reports on matters connected with the

promotion of health, and many of these have been taken up by the Government and incorporated in acts of Parliament, such as the Medical Inspection of School-children Act. A similar report was issued in 1909 regarding ophthalmia neonatorum, and compulsory notification was strongly urged in that report. This was adopted by the Government in 1914. A long list of similar events could readily be given, but I will mention only one, which was possibly unique because the association on that occasion was asked by the Government to present a report on physical education. Our great association, with its Empire-wide connexions and influence, has in the past played a notable part in the promotion of health, and one feels confident that so long as it continues to attract to its council men of knowledge, public spirit, wisdom, and vision, its accomplishment in that direction in the future will transcend all its past achievement.

ACUTE HYPERPARATHYROIDISM

By W. A. Oliver, M.D. Lond., M.R.C.P.

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THE possibility that the findings in dogs subjected to an experimental overdosage of parathyroid hormone might be reproduced in man has been recognised for some time, but only three cases, of which one alone was fully proven, have been published.

Dawson and Struthers (1923) describe the case of a man, aged 49, with a long history of the typical bone lesions of hyperparathyroidism with multiple fractures, who, while under observation, had an acute syncopal attack and was admitted with collapse and a rapid feeble pulse to hospital where he died soon after admission. Autopsy showed a parathyroid tumour and extensive generalised calcification in the vessels, heart, lungs, stomach, kidneys, spleen, and liver.

Lowenburg and Ginsburg (1932) describe the case of a boy, aged 5, who, in error, received 100 units of parathyroid hormone daily for six days; on the second day of this treatment he began to vomit and became listless; by the fourth day mental depression had become extreme, he did not respond to even strong stimuli, and high irregular fever with tachycardia was present.

On the sixth day the error was discovered and a blood examination showed serum calcium 19·6 mg. and phosphorus 4·4 mg. per 100 c.cm. When the administration of parathyroid hormone was stopped, the blood chemistry and the clinical condition rapidly returned to normal.

The only case which has been fully proven is that described by Hanes (1939). A woman, aged 49, who had previously been in hospital with pyelitis, was admitted because of increasing weakness, pain in the chest, and much loss of weight. Previously a radiogram of her kidney had shown diffuse fine mottling, examination of the serum calcium had given a figure of 12 mg. per 100 c.cm., and renal function tests had shown considerable impairment.

On examination at her last admission, five years later, a tumour was palpated at the lower pole of the thyroid, radiography showed decalcification of the bones and what was now recognised as the changes typical of metastatic calcification in the kidneys. Blood examination showed calcium 20 rising to 22 mg. per 100 c.cm., phosphorus 4·7 mg. per 100 c.cm., phosphatase 23 Bodansky units, and non-protein nitrogen 58 mg. per 100 c.cm. Renal function tests showed severe impairment.

While awaiting operation, the patient became increasingly weak and mentally depressed, developed fever and tachycardia, complained of generalised aching pains, and died before operation could be carried out.

Post-mortem examination showed a necrotic and partially calcified parathyroid tumour, composed of chief cells, and diffuse visceral and vascular calcification. The lesions in the kidney, though widespread, were considered to be insufficient to cause death.

In view of the apparent rarity of this important and curable condition, the following two cases are placed on record.

CASE-RECORDS

CASE 1.—A woman, aged 57, was admitted to hospital on Jan. 3, 1939, complaining of nausea and retching, loss of weight, weakness, and drowsiness. Her drowsy condition made it difficult to obtain her history, and it was necessary to obtain all details from a relation.

For six months she had complained of increasing loss of strength and had lost 1 st. in weight; for two weeks there had been almost complete anorexia with much nausea and retching on any attempt to take solid food; constipation was obstinate; there was no hiccough; and during the two days before her admission she had become progressively more drowsy and unable to keep her eyes open.

Her past history showed that constipation had increased recently, and that she had had occasional attacks of dyspnœa and œdema of the ankles; her memory and mentality had remained normal up to the time of her present illness; there was no past history of renal disease; and she had not taken any depressant drugs.

On examination she was very drowsy but could just be roused. Her temperature was 97° F., pulse-rate 88, and respiration-rate 15. The central nervous system was normal, apart from increased briskness of the reflexes on the right side. The tongue was dry and brown. The lungs were normal, apart from emphysema. The heart was not enlarged, the pulse was regular, and the blood-pressure was 160/100. The left kidney was palpable and tender.

Examination of two different catheter specimens of urine showed specific gravities of 1·010 and 1·018 albumin, occasional red blood-cells and granular casts, and numerous white blood-cells and hyaline casts. The urine was sterile on culture. The daily excretion of urine averaged 1000 c.cm., with an average intake of 1400 c.cm. until she became incontinent, making accurate measurement impossible.

Lumbar puncture yielded a normal cerebrospinal fluid, apart from a raised chloride content of 800 mg. per 100 c.cm. Two estimations of the blood-urea, two days and eight days after admission, showed respectively 76 and 136 mg. per 100 c.cm., the alkali reserve on the latter occasion being 75·8 c.cm. of CO_2 per 100 c.cm. of plasma.

Progress.—The patient became increasingly stuporose, with a progressive fall in blood-pressure to a final reading of 70/50 on the day before death. The tongue and skin remained very dry; there was a terminal rise of temperature, pulse-rate, and respiration-rate; and the patient died nine days after admission without ever developing any localising physical signs.

Post-mortem findings.—Brain: a small meningioma was found in the right anterior fossa. Parathyroids: beneath the right inferior lobe of the thyroid was a brownish-yellow tumour measuring 3·8 by 1·8 cm. in its longest diameters and weighing 3·8 g. (fig. 1). Heart: muscle soft and fatty, otherwise macroscopically normal. Kidneys: cut surface showed numerous small calcareous flecks, but no other macroscopic change. Bones: no evidence of decalcification or cyst formation. The remaining organs were macroscopically normal. The blood-calcium was 17·4 mg. per 100 c.cm. and the urea in the cerebrospinal fluid 110 mg. per 100 c.cm.

Histology.—Parathyroid tumour; chief-cell adenoma; no oxyphil cells present. Heart: wide-

spread, but not severe, necrosis and disruption of fibres, with deposits of calcium in the fibres, the connective tissue between them, and the internal elastic laminæ of the coronary arteries. Kidney: severe tubular epithelial necrosis, with deposition of calcium in the dead tissue and some attempt at re-epithelialisation of the tubules; a moderate glomerular necrosis with deposition of calcium and occasional hyalinised glomeruli. There was intimal hyaline degeneration of the interlobular vessels, with deposition of calcium in the internal elastic lamina, and without hypertrophy of the media and intimal hyaline thickening of a few glomerular afferent arterioles, with small deposits of calcium. Stomach: deposition of calcium in the oxyntic cells, the intercellular connective tissue, and the walls of the submucous vessels, which were grossly dilated. Lung: deposits of calcium in the interalveolar connective tissue and the vessels. Liver: necrosis and calcification in relation to the vessels of the portal tracts. Femoral artery: fibrous replacement of the media, hyaline degeneration of the intima, and deposition of calcium in an internal elastic lamina which had been partially disrupted. Spleen, ovary, adrenal, and pituitary: normal, apart from vascular changes (hyaline thickening of intima and deposition of calcium in the internal elastic lamina). Voluntary muscle: no medial hypertrophy of vessels was seen.

Summary of post-mortem findings.—Chief-cell parathyroid adenoma with necrosis and calcification in kidneys, heart, stomach, lungs, and liver, and in the vessels in many other organs.

CASE 2.—A woman, aged 56, was admitted on Jan. 30, 1939, with vomiting, loss of weight, anorexia, and pain in the chest. A year ago she had had an attack of repeated vomiting and much anorexia accompanied by severe pain in the abdomen and chest and associated with obstinate constipation. She improved after two months' treatment and rest in bed. Thereafter she remained fairly well, apart from continued loss of weight.

Three months ago there was a return of exactly similar symptoms, which had become worse up to the time of admission. There was no evidence of previous renal disease or of possible drug intoxication.

On examination she was pale, with a dry inelastic skin, breathing deeply and regularly, drowsy, and vomiting repeatedly. Her temperature was 98·4° F., rising to 99° F., respiration-rate 15, rising to 35, and pulse-rate 100. The tongue was dry and cracked. In the neck a small tumour, thought to be a lymph-node, was discovered on the left side at the lower pole of the thyroid gland. The heart was slightly enlarged, and the sounds were feeble and distant, but no abnormal sounds were heard. Blood-pressure 104/86. The lungs had râles at both bases but were otherwise normal. The abdomen was tender all over, but no viscus was abnormally palpable. The central nervous system was normal, apart from general depression of the reflexes.

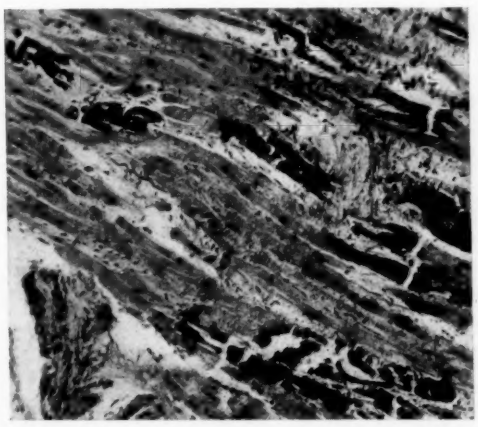

FIG. 2—Necrosis and deposition of calcium in the heart-muscle of case 2. A well-marked inflammatory reaction round the necrosed areas can be seen. (× 84.)

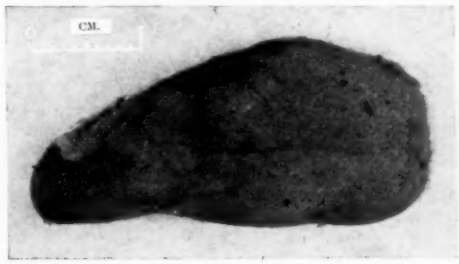

FIG. 1—Parathyroid tumour found at autopsy in case 1. (× 1½.)

Blood examination showed hæmoglobin 61 per cent., red blood-cells 4,660,000, blood-urea 176 mg. per 100 c.cm., and alkali reserve 50·7 c.cm. of CO_2 per 100 c.cm. of plasma.

The urine had a specific gravity of 1·012, and albumin was present. No centrifuged deposit was examined.

Progress.—A provisional diagnosis of uræmia was made, but the patient became rapidly more comatose and died, before detailed investigations could be carried out, three days after admission.

Post-mortem findings.—Brain: normal, apart from mild atheroma of the circle of Willis. Neck: near the left lower lobe of the thyroid was a small tumour, measuring 2·5 by 0·5 cm. in its longest diameters and weighing 1·4 g., in relation to which was a cyst filled with clear fluid. No other tumours were found in all the possible sites for parathyroid glands. Heart: generalised dilatation; valves normal; coronary arteries normal; myocardium soft. Lungs: early pulmonary œdema and congestion. Liver: acute congestion and some fatty degeneration. Kidneys: capsules somewhat adherent and on stripping left a finely granular surface; the cut surface showed numerous flecks of calcareous material; the cortex was slightly reduced in width; and the corticomedullary demarcation was slightly blurred. Bones: no evidence of decalcification. The remaining organs showed no macroscopic change. The blood-calcium was 19·6 mg. per 100 c.cm., and the urea in the cerebrospinal fluid 60 mg. per 100 c.cm. Radiography of the bones did not reveal any decalcification.

Histology.—Parathyroid tumour: chief-cell adenoma, undergoing degeneration; no oxyphil cells present; no deposition of calcium in the vessels. Heart: Widespread and rather severe necrosis and deposition of calcium in the fibres and connective tissue between them; much cellular reaction round some of the disrupted fibres (fig. 2); occasional hyalinised areas in which only very small amounts of calcium had been deposited; calcification of internal elastic laminæ of coronary arteries, with intimal hyaline thickening. Kidney: moderately severe glomerular and tubular necrosis with and without deposition of calcium, and foreign-body giant-cell reaction (fig. 3); some interstitial fibrosis in relation to disrupted glomeruli; intimal hyaline degeneration, without medial hypertrophy and with deposition of calcium in the internal elastic laminæ of the interlobular vessels (fig. 4). Lungs: very widespread deposition of calcium in the interalveolar connective tissue, the bronchial mucosa, and the vessel walls. Stomach: deposition of calcium in the mucous membrane, the intercellular connective tissue,

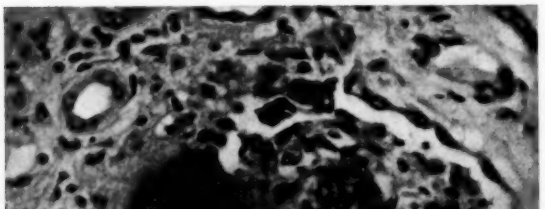

FIG. 3—A glomerulus in case 2, showing necrosis, deposition of calcium, and foreign-body giant-cell reaction. (× 340.)

and the vessels. Thyroid: no deposition of calcium. Voluntary muscle: no evidence of medial hypertrophy in the vessels. Spleen and liver: normal, apart from some hyaline thickening of the intima of the vessels, especially in the spleen, and excessive deposition of calcium in the internal elastic lamina.

Summary of post-mortem findings.—Chief-cell adenoma of the left inferior parathyroid, with widespread necrosis and deposition of calcium in kidneys, lung, heart, and stomach, and in the vessels in nearly all the organs.

DISCUSSION

Cause of death.—In the absence of more complete investigations, omitted because the diagnosis was not suspected before autopsy, it may be argued that there is no clear evidence that death was due to acute hyperparathyroidism. However, review of the post-mortem findings, both macroscopic and microscopic, shows that, apart from the parathyroid adenomata and the necrosis with associated deposition of calcium, the organs were essentially normal, and that nowhere else was there any lesion sufficient to cause death. As positive evidence, there may be adduced the facts that there was in each case a parathyroid adenoma, with the well-recognised pathological syndrome of widespread deposition of calcium and a very high value for the serum calcium (as a control, ten post-mortem estimations of serum calcium, taken at random both as regards age and time after death, have given essentially normal results). In case 1 none of the organs showed sufficient pathological change to cause death as a result of failure in function of that organ alone; the changes in kidney and heart, though widespread, were not severe and do not appear to have affected in any way their functional capacity.

In case 2 fairly severe lesions were found in the kidney, and, in view of the raised blood-urea during life, it cannot be stated dogmatically that uræmia was not the immediate cause of death. The clinical features, however, did not closely resemble those of uræmia, for there were no neurological manifestations, no hiccough, no diarrhœa, no evidence of acidosis, and no œdema; the blood-pressure was not raised, there was no cardiac enlargement and no severe degree of anæmia; the urea in the cerebrospinal fluid post mortem was only 60 mg. per 100 c.cm. (the rather high figure of 176 mg. found in life was possibly due mainly to the severe dehydration after vomiting). The lesions in the heart, although widespread, did not appear sufficient to cause death. It therefore seems reasonable to suppose that death was due directly to the results of an acute hyperparathyroidism.

Various theories as to the exact mechanism of death, both in the experimental overdosage with parathyroid hormone and in the human cases reported, have been postulated. Hueper (1927) has suggested that symptoms are caused in experimental animals by an exaggeration of the normal physiological tonic effect of parathyroid hormone, death being due to cessation of the heart in systole. Hanes (1939) considered that death had resulted in his case either from myocardial failure, due to the severe myocardial lesions, or that it had been a "chemical" phenomenon, lack of diffusible phosphorus in the presence of a very high serum calcium being the explanation. The exact mechanism of this latter hypothesis was not discussed. Recent experiments of Shelling et al. (1938) have again suggested a chemical mechanism; they postulate that the parathyroid may play a considerable part in the distribution of water and electrolytes, other than calcium and phosphorus, and that death, in their animals, after an overdose of parathyroid hormone was due to the loss from the body of fluid and electrolytes; he was able to prevent symptoms by continuous supply of fluids and electrolytes. In the cases under discussion it is certain that death was not due to the kidney lesion, there being large numbers of normally functioning glomeruli still present in both cases. The severity of the cardiac lesions in case 2 and the tachycardia out of proportion to the fever in both cases support Hanes's view, but the minimal histological changes found in the myocardium in case 1, who died an exactly similar death, appear to negative that suggestion. What part dehydration and loss of electrolytes played in these cases it is impossible to say on account of inadequate investigation, but a combination of this factor with failure of the brain to utilise glucose in the absence of diffusible phosphorus is at least a possible explanation of the gradual

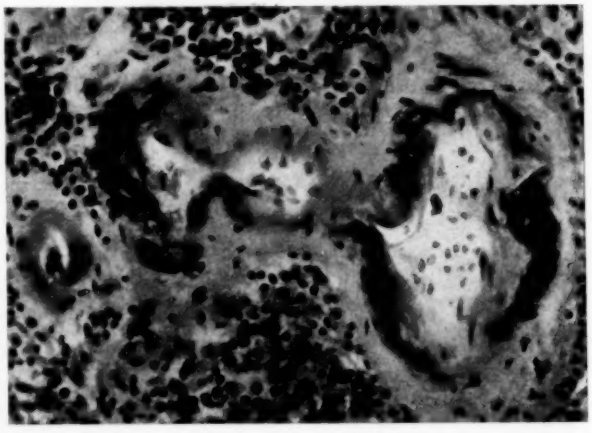

FIG. 4—Interlobular vessels in the kidney of case 2. Hyaline thickening of the intima and deposition of calcium in the internal elastic lamina can be seen. (× 325.)

onset of coma—i.e., death in each case was "biochemical."

Symptoms.—The similarity between the clinical features of the two cases is very marked: symptoms were present for an approximately similar time before admission, and the prominent symptoms were repeated nausea and vomiting, anorexia, much loss of weight, obstinate constipation, and, terminally, rapidly increasing drowsiness. In both cases examination showed severe dehydration, an irregular pyrexia with tachycardia out of proportion to the slight fever, no cardiac enlargement, a low blood-pressure, and no other significant physical signs. Laboratory examination in each case showed a slight hypochromic anæmia and evidence of renal damage but no significant change in the alkali reserve. The terminal course in each case was similar, with rapidly increasing stupor and a progressively falling blood-pressure (final readings: case 1 70/80, case 2 104/86).

SYMPTOMS OF ACUTE HYPERPARATHYROIDISM

Case	Vomiting and anorexia	Loss of weight	Anæmia	Constipation	Mental retardation	Pain in the chest
Case 1	+	+	+	+	+	−
Case 2	+	+	+	+	+	+
Lowenburg and Ginsburg (1939)	+	+	+	+	+	−
Hanes (1939)	+	+	+	+	+	+

A compar[illegible]ings of two of th[illegible]burg and Ginsburg [illegible] points of similarity (s[illegible]ses was there clinical ev[illegible]nough all the three proven ca[illegible] evidence of impaired renal function.

The case reported by Schrumpf and Harbitz (1937), although post-mortem proof is lacking, appears to have exhibited very similar though less severe clinical features.

A man, aged 54, complained of lassitude, pain in the back and legs, weakness, and disorientation. Examination showed typical mottling of the kidneys, a tumour in the neck, absence of decalcification of bones, impaired renal function, and a serum calcium of 20 mg. per 100 c.cm. At operation two parathyroid chief-cell adenomata were removed, with consequent complete relief of symptoms, although evidence of impaired renal function persisted.

Albright, Aub, and Bauer (1934) consider the symptoms (hypotonia, lassitude, constipation, and loss of appetite with resulting loss of weight) as being typical of hyperparathyroidism but postulate hypercalcæmia as the immediate cause. It thus appears that the symptoms associated with an increase of circulating parathyroid hormone constitute a fairly well-defined syndrome, and that, if a patient exhibiting these general symptoms becomes drowsy and develops fever and a tachycardia out of proportion to the fever, the immediate prognosis is serious.

The symptoms in experimental overdosage of parathyroid hormone in dogs, although not strictly comparable, are in many ways strikingly similar. Collip (1926), Hueper (1927), and Cantarow et al. (1938) report weakness, vomiting, anorexia, and rapidly increasing mental depression, with death in coma, as being typical of the experimental syndrome.

Morbid anatomy.—The exact significance of the pathological changes found in the two cases is difficult to assess, because it was not possible to fix the organs immediately after death; it is, however, clear that the morbid changes in each case are widespread and essentially similar. In case 2 the lesions in general are much more severe than in case 1.

The finding of parathyroid tumours, composed of chief cells only, indicates a definite adenoma secreting parathyroid hormone, as distinct from the general hyperplasia of the parathyroids, seen so often in chronic renal disease or the large oxyphil adenomata which may be found without any symptoms or change in the serum calcium (Hadfield and Rogers 1932).

Glomerular necrosis with only minimal deposition of calcium suggests that the necrosis may have been the primary change, providing a particularly suitable soil for secondary deposition of calcium. Post-mortem degeneration made tubular necrosis difficult to assess, but calcification in the tubular epithelium did not occur without necrosis. Hypercalcæmia alone, as seen in experimental hypervitaminosis D, produces calcified lesions in the kidney which are quite different, large amounts of calcium blocking the normal tubules, the glomerular changes being minimal, and considerable amounts of calcium being deposited in the interstitial tissue. The tubular lesions somewhat resemble those due to poisoning with corrosive sublimate, in which calcium is deposited in the necrosed convoluted tubules. In neither of these patients was there any possibility of this being an ætiological factor, but the production of closely similar tubular lesions by a known necrotising agent is noteworthy.

The cardiac lesions were severe in case 2 and comparatively mild in case 1 but were essentially similar and consisted of destruction of muscle-fibres with deposition therein of calcium. Convincing evidence of necrosis without calcification is absent, although in case 2 one probable such area was seen. The arterial change was similar to that seen in the interlobular vessels of the kidney (fig. 4).

The deposition of calcium in the stomach and lungs was not associated with necrosis. In any condition of hypercalcæmia, however, calcium is deposited in these sites irrespective of previous cell damage on account of relative cell alkalinity resulting from acid secretions.

The arterial lesions seen in the kidney, heart, spleen, liver, and many other organs, as well as in the femoral and other larger arteries, consisted of deposition of calcium in an already damaged vessel. In the absence of any evidence of arteriosclerosis or atheroma it is suggested that the degenerative lesions seen are the primary result of the toxic action of excess circulating parathyroid hormone, and that the calcification is secondary to this change.

The lesions found in these cases appear to correspond closely with those previously reported (Dawson and Struthers 1923, Hanes 1939). Hanes emphasises "injury necrosis" as the essential lesion; from the ambiguity of the term it is not clear whether, in his case, necrosis was the primary lesion or secondary to injury from deposited calcium. Albright, Baird, Cope, and Bloomberg (1934) recognise three types of renal lesion in hyperparathyroidism: type I, stones with pyelonephritis; type II, calcium precipitates in the tubules with chronic kidney damage; and type III, "acute parathyroid poisoning with anuria and death from undetermined cause in a few days, with calcium deposits in the kidneys and in other organs, but with no chronic renal changes." They

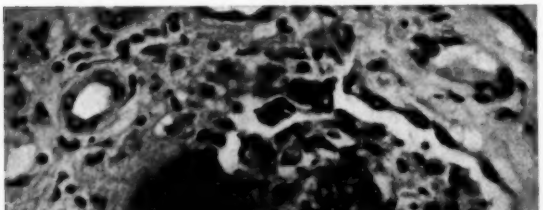

FIG. 3—A glomerulus in case 2, showing necrosis, deposition of calcium, and foreign-body giant-cell reaction. (× 340.)

and the vessels. Thyroid: no deposition of calcium. Voluntary muscle: no evidence of medial hypertrophy in the vessels. Spleen and liver: normal, apart from some hyaline thickening of the intima of the vessels, especially in the spleen, and excessive deposition of calcium in the internal elastic lamina.

Summary of post-mortem findings.—Chief-cell adenoma of the left inferior parathyroid, with widespread necrosis and deposition of calcium in kidneys, lung, heart, and stomach, and in the vessels in nearly all the organs.

DISCUSSION

Cause of death.—In the absence of more complete investigations, omitted because the diagnosis was not suspected before autopsy, it may be argued that there is no clear evidence that death was due to acute hyperparathyroidism. However, review of the post-mortem findings, both macroscopic and microscopic, shows that, apart from the parathyroid adenomata and the necrosis with associated deposition of calcium, the organs were essentially normal, and that nowhere else was there any lesion sufficient to cause death. As positive evidence, there may be adduced the facts that there was in each case a parathyroid adenoma, with the well-recognised pathological syndrome of widespread deposition of calcium and a very high value for the serum calcium (as a control, ten post-mortem estimations of serum calcium, taken at random both as regards age and time after death, have given essentially normal results). In case 1 none of the organs showed sufficient pathological change to cause death as a result of failure in function of that organ alone; the changes in kidney and heart, though widespread, were not severe and do not appear to have affected in any way their functional capacity.

In case 2 fairly severe lesions were found in the kidney, and, in view of the raised blood-urea during life, it cannot be stated dogmatically that uræmia was not the immediate cause of death. The clinical features, however, did not closely resemble those of uræmia, for there were no neurological manifestations, no hiccough, no diarrhœa, no evidence of acidosis, and no œdema; the blood-pressure was not raised, there was no cardiac enlargement and no severe degree of anæmia; the urea in the cerebrospinal fluid post mortem was only 60 mg. per 100 c.cm. (the rather high figure of 176 mg. found in life was possibly due mainly to the severe dehydration after vomiting). The lesions in the heart, although widespread, did not appear sufficient to cause death. It therefore seems reasonable to suppose that death was due directly to the results of an acute hyperparathyroidism.

Various theories as to the exact mechanism of death, both in the experimental overdosage with parathyroid hormone and in the human cases reported, have been postulated. Hueper (1927) has suggested that symptoms are caused in experimental animals by an exaggeration of the normal physiological tonic effect of parathyroid hormone, death being due to cessation of the heart in systole. Hanes (1939) considered that death had resulted in his case either from myocardial failure, due to the severe myocardial lesions, or that it had been a "chemical" phenomenon, lack of diffusible phosphorus in the presence of a very high serum calcium being the explanation. The exact mechanism of this latter hypothesis was not discussed. Recent experiments of Shelling et al. (1938) have again suggested a chemical mechanism; they postulate that the parathyroid may play a considerable part in the distribution of water and electrolytes, other than calcium and phosphorus, and that death, in their animals, after an overdose of parathyroid hormone was due to the loss from the body of fluid and electrolytes; he was able to prevent symptoms by continuous supply of fluids and electrolytes. In the cases under discussion it is certain that death was not due to the kidney lesion, there being large numbers of normally functioning glomeruli still present in both cases. The severity of the cardiac lesions in case 2 and the tachycardia out of proportion to the fever in both cases support Hanes's view, but the minimal histological changes found in the myocardium in case 1, who died an exactly similar death, appear to negative that suggestion. What part dehydration and loss of electrolytes played in these cases it is impossible to say on account of inadequate investigation, but a combination of this factor with failure of the brain to utilise glucose in the absence of diffusible phosphorus is at least a possible explanation of the gradual

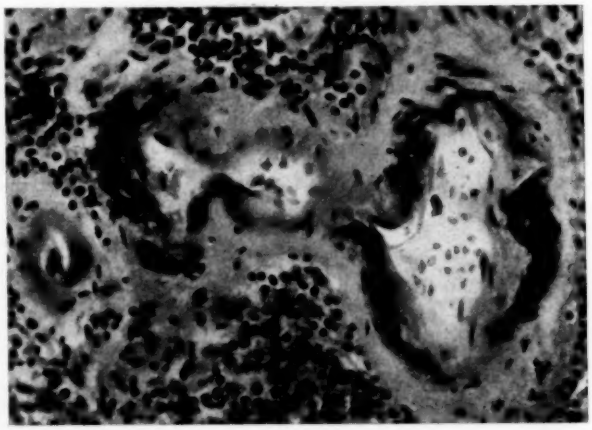

FIG. 4—Interlobular vessels in the kidney of case 2. Hyaline thickening of the intima and deposition of calcium in the internal elastic lamina can be seen. (× 325.)

onset of coma—i.e., death in each case was "biochemical."

Symptoms.—The similarity between the clinical features of the two cases is very marked: symptoms were present for an approximately similar time before admission, and the prominent symptoms were repeated nausea and vomiting, anorexia, much loss of weight, obstinate constipation, and, terminally, rapidly increasing drowsiness. In both cases examination showed severe dehydration, an irregular pyrexia with tachycardia out of proportion to the slight fever, no cardiac enlargement, a low blood-pressure, and no other significant physical signs. Laboratory examination in each case showed a slight hypochromic anæmia and evidence of renal damage but no significant change in the alkali reserve. The terminal course in each case was similar, with rapidly increasing stupor and a progressively falling blood-pressure (final readings: case 1 70/80, case 2 104/86).

SYMPTOMS OF ACUTE HYPERPARATHYROIDISM

Case	Vomiting and anorexia	Loss of weight	Asthenia	Constipation	Mental retardation	Pain in the chest
Case 1.. ..	++	++	++	+	++	−
Case 2.. ..	++	++	+	++	++	+ +
Lowenburg and Ginsburg (1932)	++	No rec.	+	No rec.	++	−
Hanes (1939)	No rec.	++	+	,,	+	+

rec. = record.

A comparison with the clinical features and findings of two of the previously reported cases (Lowenburg and Ginsburg 1932, Hanes 1939) shows many points of similarity (see table). In none of the cases was there clinical evidence of hypertension, though all the three proven cases showed definite evidence of impaired renal function.

The case reported by Schrumpf and Harbitz (1937), although post-mortem proof is lacking, appears to have exhibited very similar though less severe clinical features.

A man, aged 54, complained of lassitude, pain in the back and legs, weakness, and disorientation. Examination showed typical mottling of the kidneys, a tumour in the neck, absence of decalcification of bones, impaired renal function, and a serum calcium of 20 mg. per 100 c.cm. At operation two parathyroid chief-cell adenomata were removed, with consequent complete relief of symptoms, although evidence of impaired renal function persisted.

Albright, Aub, and Bauer (1934) consider the symptoms (hypotonia, lassitude, constipation, and loss of appetite with resulting loss of weight) as being typical of hyperparathyroidism but postulate hypercalcæmia as the immediate cause. It thus appears that the symptoms associated with an increase of circulating parathyroid hormone constitute a fairly well-defined syndrome, and that, if a patient exhibiting these general symptoms becomes drowsy and develops fever and a tachycardia out of proportion to the fever, the immediate prognosis is serious.

The symptoms in experimental overdosage of parathyroid hormone in dogs, although not strictly comparable, are in many ways strikingly similar. Collip (1926), Hueper (1927), and Cantarow et al. (1938) report weakness, vomiting, anorexia, and rapidly increasing mental depression, with death in coma, as being typical of the experimental syndrome.

Morbid anatomy.—The exact significance of the pathological changes found in the two cases is difficult to assess, because it was not possible to fix the organs immediately after death; it is, however, clear that the morbid changes in each case are widespread and essentially similar. In case 2 the lesions in general are much more severe than in case 1.

The finding of parathyroid tumours, composed of chief cells only, indicates a definite adenoma secreting parathyroid hormone, as distinct from the general hyperplasia of the parathyroids, seen so often in chronic renal disease or the large oxyphil adenomata which may be found without any symptoms or change in the serum calcium (Hadfield and Rogers 1932).

Glomerular necrosis with only minimal deposition of calcium suggests that the necrosis may have been the primary change, providing a particularly suitable soil for secondary deposition of calcium. Post-mortem degeneration made tubular necrosis difficult to assess, but calcification in the tubular epithelium did not occur without necrosis. Hypercalcæmia alone, as seen in experimental hypervitaminosis D, produces calcified lesions in the kidney which are quite different, large amounts of calcium blocking the normal tubules, the glomerular changes being minimal, and considerable amounts of calcium being deposited in the interstitial tissue. The tubular lesions somewhat resemble those due to poisoning with corrosive sublimate, in which calcium is deposited in the necrosed convoluted tubules. In neither of these patients was there any possibility of this being an ætiological factor, but the production of closely similar tubular lesions by a known necrotising agent is noteworthy.

The cardiac lesions were severe in case 2 and comparatively mild in case 1 but were essentially similar and consisted of destruction of muscle-fibres with deposition therein of calcium. Convincing evidence of necrosis without calcification is absent, although in case 2 one probable such area was seen. The arterial change was similar to that seen in the interlobular vessels of the kidney (fig. 4).

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had not seen a case of type III. The cases herein reported appear to belong to this category. Careful study of the histological changes in experimental parathyroid hormone overdosage in rats and dogs (McJunkin et al. 1932, Cantarow et al. 1938) indicate that necrosis always precedes calcification. Although the kidney lesions, especially in case 2, closely resemble those in Cantarow's dogs, they are not strictly comparable, on account of the delayed fixation. No specific mention of arterial lesions, apart from calcification, is made, and an experimental proof of the hypothesis that overdose of parathyroid hormone can cause arterial degeneration is being attempted. Other experimental changes reported by Cantarow, such as focal fatty degeneration of the liver and hæmorrhages into the splenic follicles, were not seen in the cases under consideration.

That the pathological lesions are not simply the result of hypercalcæmia seems probable. McJunkin was able to produce comparable lesions only after prolonged intraperitoneal injections of calcium gluconate and considers that direct toxic action of parathyroid hormone on the cells probably plays an important part (McJunkin et al. 1932). During the experiment one of Cantarow's dogs delivered herself of a litter, in which, although a hypercalcæmia, comparable with that of the mother, was found, no necrosis or calcification in the organs was present, suggesting that the necrotic lesions seen in the mother were the result of excess parathyroid hormone and not of the hypercalcæmia (Cantarow et al. 1938). In hypervitaminosis D, although there is persistent hypercalcæmia, the lesions produced, especially those in the kidney, are not like those produced in experimental overdosage of parathyroid hormone or like those produced in these two cases. An arterial degeneration, however, apparently similar to that observed, is sometimes seen in the experimental condition (Kleitmair and Moll 1928), and it may well be that the arterial lesion in these cases is merely the result of hypercalcæmia.

CONCLUSION

Whatever the exact significance of the pathological changes or the mechanism of the mode of death, it is clear that these cases represent an important clinical syndrome, which it should be possible to recognise before death. A clinical picture including vomiting, loss of weight, anorexia, bone pains, constipation, and lassitude, all of them recently exacerbated, with increasing drowsiness, and evidence of fever, disproportionate tachycardia, and impaired renal function without hypertension, should prompt a careful examination of the neck for a parathyroid tumour, estimation of the serum calcium and phosphorus, and radiography of the kidneys. From the experiments of Shelling et al. (1938) and the clinical reports of others (Lowenburg and Ginsburg 1932, Schrumpf and Harbitz 1937–38) it appears clear that the ill effects may be reversible, and that, if suitable fluid and electrolyte replacement is carried out and followed by removal of the tumour, good results may be expected; therefore recognition of the condition and its speedy confirmation by investigation are of considerable importance.

SUMMARY

(1) Two cases of parathyroid chief-cell adenomata associated with widespread deposition of calcium are described. (2) The clinical features and histological findings are reviewed and compared with experimental lesions. (3) The suggestion is made that the cases constitute examples of a clinical syndrome—acute hyperparathyroidism—which, if recognised, is amenable to therapy.

My thanks are due to Dr. A. E. Gow and Dr. G. Evans, physicians to the hospital, for permission to publish these cases; to Prof. G. Hadfield, pathologist to the hospital, for helpful advice and criticism; and to Miss Peiser, photographic technician, for the photomicrographs.

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THE EFFECT OF SULPHONAMIDES ON BLOOD-SERUM

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During the last few months we have been presented with a new problem by two cases under treatment with sulphonamide drugs. The phenomenon, we feel, is worth recording, even with so few cases, to invite observation and comment from others with more clinical material at their disposal.

CASE-RECORDS

Case 1.—A boy, aged 14, was admitted on Nov. 2, 1938, with a history of an insect bite over the right hand a fortnight previously, followed by a whitlow on the same hand, a whitlow on a toe, and boils on the chest wall. During the next week he had shivering attacks, felt very weak, and developed a dull pain in the left hip. Two days before admission he developed a sore throat and a tight feeling behind the sternum.

On *admission* he was very weak and unable to move, he was flushed with circumoral pallor, and his skin was clammy. Temperature 103·4° F., pulse-rate 120, respiration-rate 28. Respiration was rather laboured, with active alæ nasi. Some moist crepitations over the bases of both lungs. Nothing abnormal was detected in heart, abdomen, or central nervous system. Local lesions included a healing septic spot over the back of the right hand, an extensive whitlow on the right little finger, a whitlow on the left big toe, and boils on the chest wall. The left hip was extremely tender on pressure anterior to the joint and over the greater trochanter; the movements were too painful to be tested.

On the 5th jaundice set in and was rapidly deepening. The liver was not palpable, and the band of liver dullness was very narrow. No leucine or tyrosine was found in the urine. A blood-count gave the following results:—

Red cells ..	4,200,000	Polymorphs	85%
White cells	18,200	Lymphocytes	11%
Hæmoglobin	70%	Monocytes	4%

The blood belonged to group A, and the patient's father was compatible as donor. Blood-culture

produced a pure growth of *Staphylococcus aureus*. Treatment was started with Uleron (Bayer) gr. 7½ four-hourly.

On the 10th the temperature was settling and the jaundice disappearing. The patient was extremely pale and weak. Blood-transfusion (drip method, 350 c.cm. given over three hours) was followed by a severe reaction with several rigors and pyrexia up to 106·4° F. Cross-grouping now showed a slight agglutination of the father's cells by the patient's serum.

On the 12th a slight pericardial rub was detected.

On the 25th it was found that a large pericardial effusion had developed during the last few days. The pericardium was tapped and 150 c.cm. of a cloudy yellow fluid removed, which contained 13,600 cells per c.mm., being 95 per cent. polymorphonuclear and 5 per cent. endothelial cells. A few red cells and cocci were also seen. Culture produced a pure growth of *Staph. aureus*.

On Feb. 27, 1939, it was noted that during the last three months several more joints had been involved in a purulent arthritis, but most of them had cleared up under treatment by extension, immobilisation, and other methods, and uleron had been given until today in the above-mentioned doses over ten days at a time with intervals of five days. Temperature and pulse-rate had now been normal for some time, the heart dullness was normal, and the sounds were clear. The left hip was ankylosed, and the left knee and ankle were completely disorganised and showed chronic suppuration. The right knee and ankle and the left elbow, which had also been involved, were clear. During this time the anæmia had not increased very much, but a further blood-transfusion had been thought to be helpful. Six donors of the patient's own group (A) and two universal donors were tested, but all were incompatible. The patient's cells showed all the time a clear group-A reaction.

On April 11 the patient's left leg was amputated after a blood-transfusion (drip method, 500 c.cm. over three hours). The first donor tested (group A) was compatible. This was twelve days after the last dose of uleron.

On May 31 the patient was still in hospital but convalescent and making good progress.

The total amount of uleron administered was gr. 423: gr. 36 in six consecutive days before the blood-transfusion on Nov. 11, gr. 366 between the first blood-transfusion and the second (given on April 11), and gr. 21 in the next week.

CASE 2.—A girl, aged 6, admitted on Dec. 27, 1938, with a history of two days' fretfulness and refusal of food except fluids. There was a vague pain in the left lower part of the abdomen. Bowels and micturition were normal.

On *admission* she had a dry tongue and a flushed and clammy skin. Temperature 100·2° F., pulse-rate 120, respiration-rate 24. There was some vague aching on movement of the left leg. Otherwise physical and laboratory examination did not show any abnormalities.

On Jan. 3, 1939, the temperature suddenly rose to 104° F., the pulse-rate being 140 and the respiration-rate 36. A scarlatiniform rash developed over the forehead and spread rapidly over the rest of the body. No other abnormal symptoms or physical signs were detected. A blood-count gave the following results:—

Red cells ..	3,000,000	Polymorphs ..	94·5%
White cells ..	55,400	Lymphocytes ..	4·5%
Hæmoglobin ..	70%	Monocytes ..	1·0%

There was a considerable "shift to the left." A blood-culture proved sterile. Treatment with sulphanilamide gr. 3¾ four-hourly was begun.

On the 7th the rash had disappeared and temperature, pulse-rate, and respiration-rate were normal.

On March 14 it was noted that such attacks of rashes combined with pyrexia had recurred three times, always without other physical signs and always quickly controlled with sulphanilamide. The blood-picture always suggested suppuration, but no focus had been found. Radiography of the chest and joints and examination of urine, stools, and throat swabs had given negative results. Blood-culture proved sterile on five more occasions. A blood-count gave the following results:—

Red cells ..	4,400,000	Polymorphs ..	81%
White cells ..	64,000	Lymphocytes ..	18%
Hæmoglobin ..	70%	Monocytes ..	1%

On the 18th a similar but more severe attack came on, which lasted eight days. On the 20th and 22nd blood-cultures produced pure growths of hæmolytic streptococci. Sulphanilamide was increased to gr. 7½ six-hourly on the 20th. The patient became weak and pale, and a blood-transfusion (drip method, 300 c.cm.) was given on the 23rd. This was on the fifth day of treatment with sulphanilamide and the third after the dose had been increased. There were no complications.

On April 20 it was noted that there had been three more attacks but much less severe. The patient was on sulphanilamide all the time, but no more blood-cultures had produced growths. The patient had become anæmic again, and a further blood-transfusion had been contemplated. The patient's serum, however, had been found to agglutinate the cells of five donors tested, all being of her own group (group O). On the last occasion the serum of the patient had agglutinated her own cells after they had been washed in citrated saline solution. By now the patient had become extremely pale. Agranulocytosis (no sore-throat) was found for the first time. A blood-count gave the following results:—

Red cells ..	1,100,000	Polymorphs ..	3%
White cells ..	64,000	Lymphocytes ..	66%
Hæmoglobin: no estimation possible.		Monocytes ..	31%

1 myeloblast, 1 normoblast, severe polychromasia, and anisocytosis.

Sulphanilamide was stopped, and the patient was given large doses of iron and occasionally liver extract by mouth. Other treatment for the agranulocytosis was not given, for the excitement of undergoing injections was considered more than the patient could stand at this stage.

On the 28th there had been no more attacks. A blood-count showed hæmoglobin 25 per cent., 1,700,000 red cells, and 20,000 white cells, of which 30 per cent. were polymorphonuclears. Blood-grouping with a donor previously found incompatible showed perfect matching. No further transfusion was given.

On May 17 a blood-count showed hæmoglobin 80 per cent. and 4,300,000 red cells.

On the 31st the patient was well and putting on weight, the blood-picture being normal. She has just left hospital for a convalescent home.

The total amount of sulphanilamide administered was gr. 748: gr. 170 during the early stages of the disease, gr. 120 in five days before blood-transfusion (followed by an interval of twenty days), and gr. 458 thenceforth until agranulocytosis was detected.

EXPERIMENTS

Struck by the similarity of these two cases with regard to blood-grouping, we tested the serum of six other patients under treatment with different sulphonamides for various conditions, such as local sepsis, pneumonia, and quinsy. The patients were all adults and on comparatively smaller doses than were the above-mentioned patients. None of them gave any abnormal results as regards grouping and cross-grouping of their blood with corresponding donors.

We next investigated the action of these drugs in vitro, and as a result we found that normal serum treated for some considerable time (four days and

more) with (in our case) sulphanilamide in a concentration of about 2½ per cent. appears to agglutinate any cells tested—i.e., cells derived from donors of the corresponding group or from universal donors.

SUMMARY

(1) Two cases are described in which treatment with a sulphonamide over a long period and in large doses (uleron gr. 423 in one case and sulphanilamide gr. 748 in the other) was followed by an alteration in the blood-serum which precluded the finding of a suitable donor for blood-transfusion.

(2) Normal serum treated in vitro with sulphanilamide for four days or more agglutinated the red blood-cells of donors of the corresponding blood-group and the cells of universal donors.

(3) When these drugs were administered over shorter periods and in smaller doses to six other patients such a change in the blood-serum did not take place.

Our thanks are due to Dr. C. Carron Brown and Mr. T. E. Stoker for permission to publish these cases.

A CASE OF CHLOROMA

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The rarity of chloroma, and our consequently limited knowledge of the condition, leads me to publish a case treated at the Cardiff Royal Infirmary.

CASE-RECORD

A married man aged 25, a carpenter, was admitted to the infirmary on Oct. 15, 1937. Apart from scarlet fever in childhood he had always been healthy, and there had been no relevant illnesses in his family. About three months before admission he began to complain of general malaise, backache, lassitude, and anorexia, with attacks of vomiting, "rheumatic" pains in all his limbs, and steadily increasing deafness. At the same time he noticed a small swelling over the mid-sternal region and another over the third left costal cartilage. These swellings were hard, painless and varied in size. Sometimes they almost completely disappeared to become noticeable again a few days later. Soreness of the gums and teeth developed simultaneously with severe backache which forced him to give up his work three weeks before admission to hospital. Later he had diplopia, and this was followed by dimness of vision and bleeding from the gums.

On admission the patient's temperature was 99·6° F.; pulse-rate 130 per minute, regular and of fair volume. He looked ill and was very pale and thin. His skin was moist and clammy. He was almost comatose and lay in bed listlessly with his legs drawn up to relieve the pain in the back. There was a lump the size of a hen's egg over the lower portion of the sternum and attached to it. His tongue was dry and coated. The tonsils were normal in size and slightly reddened. The gums were bleeding, but no ulceration was visible in the mouth or throat. No abnormality was noted in the abdomen apart from some enlargement of the liver and spleen. No physical signs were found in the heart or lungs. B.P. 126/48. The central nervous system was normal, except for some retinal hæmorrhages, with blurring of the disks and white patches of exudate. The lymph-glands in the left cervical, both axillary, and inguinal regions were enlarged, discrete and firm. Urine: sp. gr. 1·020; much albumin; no Bence-Jones proteose.

Blood-count (Oct. 15): Hb., 16 per cent.; red cells, 1,200,000; colour-index, 0·67; white cells, 14,000.

Blood-count (Oct. 17): Hb., 14 per cent.; red cells, 800,000; C.I., 0·88; white cells, 17,000 (polymorphs 21 per cent., lymphocytes 37 per cent., myelocytes 42 per cent.). Many myeloblasts. Red cells showed anisocytosis and poikilocytosis. Bleeding-time, 13·5 min. Clotting-time, 6·25 min.

Aspiration of the tumour was attempted with a wide-bored needle, but nothing could be withdrawn. The tumour was subperiosteal and was semi-solid. The patient deteriorated rapidly, vomited a number of times, became weaker, and died four days after admission to hospital.

Post-mortem findings.—The body was very thin and extremely pale with a few petechiæ, mostly about the root of the neck. An old scar was noticed about the inner side of the right thigh above the knee. A swelling 1 in. in diameter was present over the lower end of the sternum. Tumour deposits were found in the ribs, the posterior surface of the sternum, and the lower dorsal, lumbar and sacral vertebræ. Most of these deposits were subperiosteal. There was also one subperiosteal deposit in the vertex of the skull. On section the tumours were green, quickly fading to grey on exposure. The tissue was of a firm consistence. The spleen was somewhat enlarged and soft with prominent malpighian bodies. The pulp was pink with darker mottling. There was no notable enlargement of the lymph-glands. The marrow of the upper end of the femur was hyperplastic and green, but in the tibia it appeared somewhat gelatinous.

Several petechial hæmorrhages were visible under the epicardium. Numerous deposits were palpable in the myocardium. The heart was left unopened and preserved as a specimen. No abnormality was found in the aorta or other vessels. The lungs showed several subpleural petechiæ, with some hæmorrhages into the lung substance of the lower lobes. Both lungs were œdematous. The gums were hæmorrhagic and there was some chronic tonsillitis. Many disk-shaped deposits were found in the stomach wall. The pancreas also contained masses of tumour. The liver looked pale but otherwise normal. Small deposits were also found in the kidneys and the right testicle. The nervous system was normal except for a tumour deposit in the dura mater of the right middle fossa.

Microscopical examination.—The deposits contained large numbers of cells of the myeloid type. The liver showed leukæmic infiltrations of the portal tracts. A lymph-gland from the neck showed an increase of "endothelial cells."

The disease was described by Allen Burns about 1821 (Burns 1823), but the name chloroma was first used by King in 1853. In 1910 Lehndorff collected and reviewed the data of some 73 cases reported up to that time. Brannan (1926) noted the details of a further 74 cases recorded between 1910 and 1926, of which he was satisfied that 56 were definitely chloroma. Kandel (1937) has since collected 80 cases reported between 1926 and 1936, though he was only able to confirm the diagnosis in 46 of these. This makes a total of 175 cases up to 1936. The literature since that year contains reports of about 12 more cases. Including the present case an aggregate of about 188 cases have therefore been reported since 1821.

PATHOLOGY

Chloroma is a rare type of leukæmia in which tumours are formed in the bones. These usually appear both under the periosteum and in the bone-marrow. The growths may be found in any bone in the body but the most frequent sites are in the bones of the face and skull, more especially in the orbit. The sternum, ribs, vertebræ and pelvis are common but less frequent situations. Infiltration of the soft tissue with tumour deposits is also an important feature—e.g., the liver, spleen, kidneys,

muscles, lymph-glands, skin, breast and ductless glands. Brannan states that no tissue is entirely exempt from deposits except possibly the brain and spinal cord. Critchley and Greenfield (1930) have described cases of compression paraplegia due to spinal meningeal deposits. The case reported by Rothschild (1926) showed a focal cerebral lesion. According to Kandel discrete tumours in neural tissue are not described. The nervous system is only indirectly involved through pressure and circulatory disturbances due to the presence of deposits in the surrounding structures, such as the dura mater and spinal canal. However, sections sometimes reveal infiltrations of peripheral nerves, and this seems to be one reasonable explanation of the limb pains.

The tumour masses usually have a green colour which fades on exposure to the air. Rarely the colour is stable, and in some cases it is entirely absent. The colour can often be restored if the tissue is immersed in hydrogen peroxide. Glycerin is said to preserve the colour (Meyer and Berger 1924). The nature of the pigment is obscure. It is believed to be a lipochrome and to contain iron. Meyer and Berger have reported absorption bands in the spectrum at 645 and 490. Some writers have associated the colour with eosinophil cells, but there is no constant relationship between the amount of colour and the number of these cells present. In fact, eosinophil cells do not seem to be present in large numbers either in the blood or the tumour tissues. Askanazy (1917) thinks the green colour is due to the myeloid cells. Both he and other workers have sedimented the myeloid cells in leukæmia and chloroma and noticed that these cells had a green colour which slowly faded.

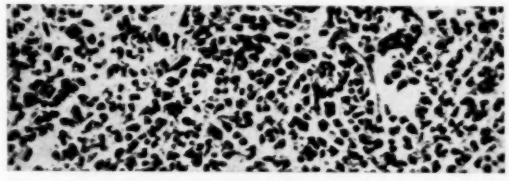
Blood changes.—Accompanying the tumour formation there are changes in the blood-picture similar to those of acute leukæmia. The leucocyte-count may be normal, about 8000 per c.mm., or may be increased to about 400,000 per c.mm., the majority of the cells being of the myeloblastic type. (Burgess (1912) quotes 1,888,000 per c.mm. as the highest count and Pissavy and Richet (1912) 3200 as the lowest.) Many of these cells give a positive peroxidase reaction. Some authors suggest that the results obtained in this test may vary with the method of performing the reaction and they advise that more than one technique should be adopted. Occasionally the cells are reported as lymphoblasts, but most of these are now regarded as myeloblasts on more careful investigation. The usual difficulties arise in differentiating the various forms of the more primitive leucocytes—a common problem in the interpretation of films in many blood diseases.

The blood-count in some cases may resemble that found in aleukæmic leukæmia. Brannan (1926) thinks that these counts are just phases in the disease, and that if sufficient counts are made in each case, a leucocytosis will be demonstrated at some time. As in leukæmia, the blood-picture may show changes similar to those seen in pernicious anæmia, with anisocytosis and poikilocytosis. The bone-marrow also shows evidence of red-cell regeneration.

Other investigations that have been done, such as blood-calcium and blood-phosphorus estimations, have been reported on as normal. Only one author reports the presence of Bence-Jones proteose in the urine.

Microscopically the tumours are composed of cells similar to those seen in the blood—i.e., myeloblastic tissue (see figure). Lehndorff divided the cases according to whether or not the tumour tissue and the blood contained lymphoblastic or myeloblastic cells. Burgess (1912) strongly maintained that the cells were myeloid in type. Most writers now seem to hold this view. The same difficulty arises in identifying the types of cells in the tumours, as in differentiating the leucocytes in the blood-films. Myeloblasts and lymphoblasts both give a negative peroxidase reaction. A positive reaction is, however, usually obtained, and this is explained by the presence of sufficient of the more mature leucocytes—pre-myelocytes and myelocytes.

Unlike ordinary leukæmia, the tumour deposits infiltrate the tissues like malignant disease, and resemble deposits of another uncommon bone-marrow tumour, multiple myelomata. Chloroma in its mode of tissue infiltration resembles lympho-sarcoma, except that in the former disease the



Photomicrograph of deposit of chloroma in a rib.

deposits have a close relationship to bones. Intermediate forms between chloroma and myeloid leukæmia are known to exist. The definite relationship between these two conditions was shown in blood-films by Dock in 1893. The disease seems to be a variety of leukæmia, in which the changes found in the bone-marrow have become so active as to suggest a neoplastic form of leukæmia. Our present knowledge of the disease does not seem to have advanced much since 1904, when Dock and Warthin wrote, "Chloroma is a tumour-like hyperplasia of the parent cells of the leucocytes, primary in the red marrow, the periosteum being secondarily involved. The possibility of a primary chloroma in any part of the body in which white cells are formed must be considered." However, although deposits of chloroma possess local invasive characters similar to those exhibited by carcinomata and sarcomata, the mode of dissemination of chloroma throughout the body does not resemble the spread by lymphatics and the blood-stream as in malignant disease.

CLINICAL COURSE

The malady affects children, usually males, and less often adults. The symptoms resemble those of acute leukæmia with the addition of tumours in connexion with bones. There is usually a preliminary period of malaise, general weakness, wasting, "rheumatic" pains in the bones, and some fever. This is soon followed by changes in vision and hearing. Simultaneously a severe anæmia develops with petechial hæmorrhages, bleeding from the mucous membranes, and septic ulceration of the mouth and throat. The spleen, liver and lymph-glands are usually enlarged, though not invariably. The retinæ may show hæmorrhagic exudates. There are also palpable periosteal tumours, and classical cases have orbital swellings causing exophthalmos. Masses may commonly be felt on the sternum, ribs and sometimes in the skin. Huber (1878) and Simon (1912) each reported a case with signs of a malignant tumour in the breast and a radical amputation was performed.

Another interesting case with signs resembling mastoiditis was published by Lewis (1919).

Reviewing the literature, the disease seems to present itself in two clinical forms: (*a*) that affecting children, in whom rapidly growing bony tumours are prominent, and usually called chloroma; and (*b*) that affecting older patients, in whom a progressive anæmia and signs of leukæmia are more predominant, and usually called chloro-leukæmia. In both types, however, the two essential features of chloroma are present—viz., leukæmic changes in the blood-films and green tumour deposits in bones.

Radiologically none of the appearances produced by chloroma in the skeleton can be said to be diagnostic. There may be periosteal elevation with new bone formation laid down in the striæ, either parallel or perpendicular to the shaft of the bone. Osteoporosis may either be generalised, or it may be seen as pin-point areas of destruction, as larger punched-out areas, or as erosions near the ends of the diaphyses. There are no changes in the epiphyses—a feature which distinguishes the condition from scurvy and rickets. Similar radiographic appearances to those of chloroma may also be produced by leukæmia, more especially the lymphatic variety, and by other bone diseases—namely, Ewing's tumour, osteogenic sarcoma, carcinomatous deposits, myelomata, sarcomata, congenital syphilis, and Hodgkin's disease.

The disease is always regarded as fatal. The average duration is about 6 months, but cases have lasted as long as 18 months. No effective treatment is yet known. Irradiation with deep X rays and radium have yielded no success, and appear to make the condition even worse. Drug therapy has produced equally bad results. Blood-transfusions only produce temporary benefit and do not stem the pathological process. Nevertheless two recoveries are recorded in the literature. In the case described by Lecene (1927) a green tumour was excised from the humerus and reported on as myelocytic chloroma, though the blood-count was normal. This was followed by deep X-ray therapy and the patient was reported to be alive and well 2 years later. Washburn (1930) described a case in a boy aged 22 months. A green tumour was excised from the skull and reported upon as a myelocytoma. Another tumour was present in the femur, and the blood-count was reported on as doubtfully leukæmic. Deep X-ray therapy was given. After treatment the blood was said to be normal. The patient was well 2½ years later. In neither of these cases does the diagnosis of chloroma seem to be strongly established, for the usually accepted criteria do not seem to have been fully satisfied. In both cases green tumours were described, but in Lecene's case the blood was almost normal, and in Washburn's patient the blood-films were not very definitely leukæmic.

SUMMARY

A typical case of chloroma is described in a young adult. The condition is rare, less than 200 cases having been reported since 1821. It is characterised by (*a*) the appearance in bones of green tumours composed of myeloblastic cells which infiltrate the tissues like malignant disease, and (*b*) a blood-picture resembling myeloblastic leukæmia. Tumour formation is the most prominent feature in children and progressive anæmia in adults. The disease is usually fatal within 18 months.

I wish to express my thanks to Dr. Herbert T. Evans for his permission to publish this case; to the staff of the department of pathology of the Welsh National School of Medicine for the post-mortem details and the photomicrograph; and to Dr. Marjorie Bryan, the house-physician of the case, for her help with the clinical notes.

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REDUCTION OF POTASSIUM TELLURITE IN DIPHTHERIA

AND OTHER THROAT CONDITIONS *

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THE announcement of the possibility of more rapid diagnosis of diphtheria (*Lancet*, 1938) is always sufficiently important to demand investigation into the accuracy of the methods suggested. Dr. Alfredo Manzullo (1938) claimed that if a 2 per cent. solution of potassium tellurite, not more than a month old, were painted on the white exudate on the tonsil of a patient suffering from diphtheria, the membrane blackened within fifteen minutes—owing to reduction of the tellurite—but that no change took place in similar conditions such as streptococcal tonsillitis. He also claimed that a rapid bacterial diagnosis could be made in vitro by incubating a swab in a special liquid tellurite medium for three hours and observing black colonies on the swab in cases which were due to diphtheria, or the failure to produce any blackening in cases that were not.

We have compared the results of the in-vivo test with the clinical and bacteriological findings in a series of 84 cases and the results of the in-vitro test with the bacteriological findings in a series of 277 swabs. A swab (taken before the in-vivo test was made) was inoculated on the Löffler's medium, then on to a McLeod's tellurite plate, and then subjected to the in-vitro test. The bacteriological findings were obtained without a knowledge of the result of the in-vivo test, which was made by one of us (B. A. P.) along with the clinical observations. The result of the in-vitro test was recorded for each swab before a bacteriological diagnosis had been made and in the absence of clinical knowledge of the case. All strains isolated on McLeod's tellurite were typed according

* Based on a paper read at the Birmingham meeting of the Pathological Society on July 8.

to his classification (Cooper et al. 1936). Any case giving granular forms from Löffler when stained by Neisser, which failed to appear on the tellurite plate, was subcultured from the Löffler to tellurite and the strain isolated investigated to see whether it was diphtheria or a diphtheroid. (Only 9 such swabs appeared in the 277 examined, and from 4 of them diphtheria was isolated. The other 5 were apparently diphtheroids.)

THE IN-VIVO TEST

Table I gives the results of the in-vivo test compared with the clinical and bacteriological findings. "Severe" cases mean cases with extensive membrane and œdema of the neck in which the clinical diagnosis was certain. "Moderate" cases are those with well-marked membrane but no œdema of the neck. "Doubtful" cases include cases of follicular tonsillitis with patches of exudate, 1 case of Vincent's angina, and 1 case of agranulocytic angina with white sloughs on the tonsils. In 57 cases where *Corynebacterium diphtheriæ* was found 55 were intermediate, 1 gravis, and 1 mitis.

TABLE I—IN-VIVO TELLURITE TEST

Clinical condition	Bacteriologically positive		Bacteriologically negative		Total
	Reduction	No reduction	Reduction	No reduction	
Severe ..	17	5	2	1	25
Moderate ..	22	5	0	1	28
Mild or doubtful	5	3	15	8	31
Total ..	44	13	17	10	84

In the 25 severe cases in which the clinical diagnosis was certain there were 6 negative in-vivo tests. In 2 other cases we failed to grow *C. diphtheriæ* although the in-vivo test was positive. We have not infrequently observed with this type of diphtheria that the original throat swab may be negative and may be followed later by a positive swab. In 27 out of the 28 moderate cases *C. diphtheriæ* was isolated, and 5 of these gave negative in-vivo tests. Therefore, out of 52 definite cases of diphtheria, the in-vivo test failed in over 20 per cent. of cases.

Of the 8 doubtful cases in which *C. diphtheriæ* was recovered 3 gave negative in-vivo tests. It might be that in these cases this organism was not the real pathogen. A more noticeable feature of this group was the number of false positives—15 in which no *C. diphtheriæ* could be recovered. Of the 15, 4 were scarlet-fever cases with patchy tonsils, 1 Vincent's angina, 1 agranulocytic angina, and 9 follicular tonsillitis. If all the cases in which *C. diphtheriæ* was recovered are included, the in-vivo test gave 13 false negatives out of 57 bacteriologically proved cases. In the 27 cases in which this organism was not recovered the in-vivo test gave 17 positives, and probably 15 of these were false positives. With such a high percentage error in both directions, it is doubtful if the test is of any great value.

THE IN-VITRO TEST

The results of the comparison of the in-vitro test with the bacteriological findings are shown in table II. In the results on 100 cases Manzullo (1938) does not include any doubtful reactions. We have found difficulty in several cases in deciding whether his test was positive or negative, for indefinite grey discolorations appeared. Such results have been separated from the definite ones and called doubtful; they have been excluded from table III entirely. As regards nasal swabs, such reactions were usually on swabs which proved to be negative for diphtheria,

TABLE II—IN-VITRO TELLURITE TEST

—	Bacteriologically positive			Bacteriologically negative			Total
	Reduction	Doubtful	No reduction	Reduction	Doubtful	No reduction	
Throat ..	43 (68%)	13 (21%)	7 (11%)	34 (34%)	21 (21%)	44 (45%)	162
Nose ..	7 (28%)	1 (4%)	17 (68%)	12 (13%)	19 (21%)	59 (66%)	115

but as regards throat swabs they were more numerous and an equal percentage of bacteriologically positive or bacteriologically negative swabs gave doubtful reactions.

Manzullo claimed accuracy for this method only as regards throat swabs and said that nasal swabs did not give satisfactory results. Table II shows that 68 per cent. of bacteriologically positive nasal swabs are negative by this test. With throat swabs on the other hand, 88 per cent. of bacteriologically positive swabs gave some darkening. This suggests that factors other than the presence of diphtheria organisms are necessary for the reduction of tellurite. Swabs soaked in pure cultures of diphtheria give no reduction by the test. Preliminary experiments reported by Manzullo suggest that fibrin may play a part in the reduction. The results on positive throat swabs do not in themselves suggest that the test is without value, but table II shows that bacteriologically negative swabs also give a positive test in 34 per cent. of cases and a doubtful result in a further 21 per cent. It thus seems probable that the reduction depends not so much on the presence of diphtheria

TABLE III—IN-VITRO TELLURITE TEST (EXCLUDING DOUBTFUL RESULTS)

—	Positive test		Negative test	
	Confirmed bacteriologically	Not confirmed	Confirmed negative	Bacteriologically positive
Throat ..	43 (56%)	34 (44%)	44 (87%)	7 (13%)
Nose ..	7 (37%)	12 (63%)	59 (77%)	17 (23%)

organisms on the swab but of organisms plus some additional factors, which are yielded by throats subjected to certain types of inflammatory reaction. We hope to publish investigations now proceeding to determine the factors responsible for this reduction. Manzullo says that after reading the results of the in-vitro test, they are confirmed by making films and staining by Gram's method. We have found it impossible to distinguish *C. diphtheriæ* from the diphtheroids usually present under these conditions. The films showed an abundance of pleomorphic organisms, and we found no certain distinction between bacteriologically positive or negative swabs. Some of the swabs giving most reduction of tellurite showed an abundance of fusiform bacilli and spirochætes, suggesting that anaerobic conditions were established during the three hours' incubation, despite the fact

that the position of the swab provided for maximal aeration during the test.

If the results are expressed in another way and doubtful reductions are excluded, table III shows that we have failed to confirm the diagnosis of diphtheria in 44 per cent. of throats (and even a higher percentage of noses) giving a positive in-vitro test. Even with a generous allowance for the possibility of our failure to isolate the organisms in some cases of true diphtheria it is impossible to conclude otherwise than that many false positive reactions are given, which render the test of little value as an aid to the diagnosis of diphtheria. The sequence of the different examinations on each swab was such that possibly a few cases might be missed by the Manzullo test because the only organisms present on the swab were rubbed off by the inoculations on the other media before this test; but this could never cause false positive results. (Control swabs impregnated with media and submitted to the test always remained white.) The occurrence of these false positives is also independent of the type of diphtheria present, though it must be remembered that, if other organisms play a part in the reduction, they may vary in type and distribution in different districts; hence the percentage error found in Bristol may not be universal. Nevertheless it is apparent that in some districts at any rate the test is misleading and of doubtful value. Until a knowledge of the factors contributing to the reduction is obtained, its real significance cannot be assessed. Seeing that "bacterial cultures are nearly always strongly reducing systems" (Hewitt 1935) during the early stages of bacterial growth, it is not unexpected that the test is not specific for diphtheria.

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INSULIN PREMEDICATION IN CONVULSION THERAPY

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THE purpose of this short paper is to demonstrate how a common difficulty in the use of Cardiazol and triazol in convulsion therapy for schizophrenia has been met at Claybury. I refer to the symptoms of resistiveness, fear, and panic.

Resistiveness is known to be one of the commonest features of schizophrenia, particularly in its catatonic form. One would therefore expect to encounter resistance in convulsant injections just as extensively as in other events; the more so when remembering that timidity is a common trait in the personality of the schizophrenic patient. Further, it is not unreasonable to suppose that such patients become frightened of a drug, the injections of which, they must eventually realise, will produce a loss of consciousness twice a week, even allowing for the fact that more alarming sensations are not recollected. In this connexion it is surprising to read Meduna's statement (1938) that only a few of his patients fear the cardiazol injection and none have exhibited the states of panicky fear described by some workers. Numerous writers in this country confirm the distressing nature of the sensations which the injections cause (Harris 1938, Russell 1938, Walk and Mayer-Gross 1938, Gillespie 1939), and my own cases have been no exception in this matter.

RATIONALE AND TECHNIQUE

It has always been the aim in convulsion treatment at Claybury Hospital to eliminate the "negative injection" so far as possible. In spite of this policy 12 patients developed considerable apprehension and states of panic after the completion of a few fits, even though the injection had always been promptly followed by a "grand mal" attack. To meet these difficulties, various sedatives were tried as premedicating agents to allay fear. Barbiturates and the once advocated morphine and hyoscine proved useless because of the large proportion of "negative injections" that resulted. Insulin has so far proved the most satisfactory agent in that it diminishes the patient's fear and facilitates the onset of the fit, with the result that the convulsion is effected with a smaller dose than before. Insulin has also proved beneficial in reducing the confusion and restless excitement which some patients show on recovery from a fit.

The object in insulin premedication is to give such a quantity as will induce coöperation with the injection of a convulsant drug. The dose may require pushing until drowsiness and languor supervene, but in 11 patients it has been possible to secure coöperation without the onset of obvious drowsiness. On such a basis it is clear that this form of medication differs entirely from the "summation therapy" of Georgi (1937), in which the coma-producing dose of insulin is first determined and the cardiazol injection planned to coincide with the "turning-point" in hypoglycæmia. A scheme of stepping up the dosage is used similar to that employed in insulin shock. The patient is started with ten units and the injection increased by tens until the desired coöperation is obtained. In 3 patients one could not say that the coöperation was entirely satisfactory, but resistance was so far decreased that the injection was carried through with little trouble. On almost every occasion the induction of the fit has been sufficient to dispel any lethargy induced by the insulin. The patients are given sugared tea to drink as soon as the fit is over. In 2 cases, owing to the development of insulin sensitivity, recovery was effected with glucose solution through the nasal tube on one occasion and with intravenous glucose on two other occasions. As with cardiazol therapy, the management of the premedication can be performed by the nursing staff of the ordinary mental hospital without the degree of special training necessary for insulin-shock summation methods.

RESULTS

Of the 23 patients dealt with in this paper 15 were given cardiazol, 6 triazol, and 2 cardiazol and triazol at different times. Since the present series forms part of a total of over 70 patients, and of this number 25 have been treated with triazol, it appears that triazol shows no particular immunity from the reaction which insulin premedication is designed to meet, though such has been suggested by some authors.

Insulin has enabled me to complete a course of convulsant treatment in 22 out of 23 cases, which courses would otherwise have had to be prematurely terminated because of resistance and apprehension. In case 3 the course was stopped because of the excessive exacerbation of symptoms on recovery from each fit. The patient's condition deteriorated,

and it was considered inadvisable to continue the treatment.

Two points emerge from results summarised in the accompanying table: (1) the high proportion of

RESULTS OF INSULIN PREMEDICATION IN CONVULSION THERAPY

Case	Cardiazol (C) and Triazol (T) cases	Before insulin premedication		With insulin premedication		Total convulsions	Maximal dose of insulin	Results
		Successful convulsions	Negative injections	Successful convulsions	Negative injections			
1	C	7	3	14	3	21	100	CR*
2	C	12	7	11	—	23	100	I
3	T	1	—	3	—	4	60	I
4	T	2	—	13	—	15	70	I
5	C	24	4	12	1	36	80	I
6	C and T	17	11	4	—	21	60	I
7	C	16	—	9	—	25	40	I
8	C	8	3	5	1	13	60	NC
9	C	8	8	14	3	22	90	NC
10	C	10	1	11	—	21	70	I
11	C	4	2	14	2	18	60	CR†
12	T	6	—	15	—	21	40	I
13	C	3	2	4	3	7	35	NC
14	C	1	—	26	4	27	50	I
15	C	15	5	9	2	24	100	NC
16	T	17	1	2	—	19	30	NC
17	T	1	—	5	1	6	20	NC
18	T	3	—	14	2	17	80	I
19	C	10	4	16	1	26	100	I
20	C	7	3	7	—	14	30	I
21	C	4	2	8	2	12	90	I
22	C	8	1	8	1	16	70	I
23	C and T	7	2	5	4	12	50	CR*
		191	59	229	30			
Percentage of "negative injections"		30		13		Complete remission, CR 3 Improved, I . . 14 No change, NC 6		

* Discharged. † Relapsed on trial.

"negative fits"—namely, 30 per cent.—which took place without insulin in these resistive patients was reduced to 13 per cent. with insulin; and (2) there have been but 3 patients discharged in the small series, and 1 has since relapsed. This is a very inferior figure compared with most of the published statistics and with the discharge-rate for all cases treated at Claybury, which is about 42 per cent.

SUMMARY

In patients undergoing convulsion therapy with cardiazol or triazol, the development of resistiveness, fear, and panic during treatment has been noted. Sedatives such as morphia, hyoscine, and the barbiturates proved unsatisfactory in allaying these symptoms, on account of the "negative injections" which resulted. Insulin premedication not only proved effective in obtaining coöperation in 22 resistive patients but also reduced the incidence of confusion and excitement on recovery from the induced fits. This use of insulin, by greatly diminishing the unpleasantness of convulsion treatment to resistive schizophrenic patients, has facilitated their nursing and management.

I wish to thank Dr. J. S. Harris for his advice and for permission to publish this paper.

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THE USE OF PENTOTHAL ACID IN MIDWIFERY

By G. C. Steel, M.R.C.S., D.A.

ANÆSTHETIC REGISTRAR AT THE MIDDLESEX HOSPITAL, LONDON

Various methods of relieving pain during parturition have been tried and acclaimed, only too frequently to fall into disrepute. At present most of the patients confined in institutions or hospitals in this country and many of those who elect to bear their children at home receive gas and air from one of the machines now available. The analgesia is usually started at the beginning of the second stage of labour, and good results are obtained in most cases. During the first stage, however, the mother undergoes a genuine discomfort which gradually increases in intensity, especially in primiparæ, who become progressively more apprehensive and perhaps exhausted as the pains mount to a crescendo. Efforts therefore have been made in the past to produce analgesia and/or amnesia and have met with various degrees of success. Twilight sleep, in which morphine and scopolamine were employed, and the use of Nembutal are probably the two best known methods which have been tried. In the former, narcosis of the infant was frequently found (Burrows 1933), and in the latter, restlessness was noted in 20 per cent. of the patients (O'Sullivan and Craner 1932), with prolongation of labour in other cases.

The oral use of Pentothal Sodium as an analgesic and hypnotic in labour has already been reported on by Macphail, Gray and Bourne (1937), who have declared themselves satisfied with the results they have obtained. For the sake of convenience of administration, it was decided that the use of a slightly more stable form of this drug would be expedient. In response to inquiries the manufacturers very kindly produced a large supply of the more stable compound, Pentothal Acid.

With the aid of the staff of the maternity unit I have administered this drug orally to a series of 200 women in labour at the Middlesex Hospital, having in mind the following criteria: (1) the drug should not cause any excitement or have any harmful effect on the mother or on the fœtus, as evidenced by fœtal distress before birth, or by fœtal narcosis after birth; (2) a reasonable degree of analgesia and/or amnesia should be attained, and the drug should be easily administered and should not necessitate the constant presence of a qualified medical man in view of the possibility of sudden untoward occurrences; and (3) labour should not be prolonged. In these 200 cases we have had very gratifying results, and we feel that, when properly used and with its limitations realised, pentothal acid will be very beneficial in the relief of the pains of labour.

TECHNIQUE

When the pains begin to cause genuine discomfort, which is usually when they come on at intervals of five to seven minutes, the patient is given gr. 6–8 of pentothal acid; this is repeated three-quarters of an hour later. From that point up to as near to delivery as is convenient for its administration, a dose of gr. 2–4 is repeated every half to one hour, depending on the response of the patient; usually a dose every three-quarters of an hour gives a good result.

The mother usually becomes drowsy and sleeps between the pains; she wakes up with each pain but is not very distressed, and, so soon as the pain has finished, she again drifts off into a light sleep, from

which she can easily be aroused and will talk and answer questions in a perfectly intelligent manner. It is a pleasing experience to see a woman in the first stage peacefully sleeping between pains and yet waking up calm and refreshed as they recur.

At some time or another during the second stage we start giving gas and air to the patient. We have recorded instances when this has been refused. It is towards the end of the second stage that the value of the pentothal becomes most apparent. By the time that delivery takes place, the patient has usually had gr. 25–35, and the full benefit of the drug is then realised: in 80–85 per cent. of cases the woman is in a drowsy placid state, exhibiting a degree of quiet and willing coöperation that is indeed gratifying, obeying the obstetrician's orders while the pains are present, and resting quietly in between them.

RESULTS

We have not been able to detect any signs of harm coming to the mother through the employment of this technique, and, although in 7 per cent. of our cases we have been unable to reduce to a state of absolute coöperation already wildly excited members of our Soho clientele, we have yet to witness a case in which this drug has actually caused excitement. We lay special emphasis on this point, for, even when certain drugs may cause excitement in only a small percentage of cases, it is the uncertainty of not knowing whether or not each case that comes along will be a good one or a bad one in this respect that worries the obstetrician and the anæsthetist.

In our 200 cases we have had 5 stillbirths: in 4 of these tentorial tears were found post mortem, 3 of the 4 patients having been delivered by forceps; in the 5th case there was a tight knot in the cord with no pulsation palpable on the fœtal side of it. Not even by the most exacting standards, therefore, could these deaths be traced to the effects of the drug. Apart from these, all the babies in the series have breathed spontaneously, in most cases as soon as the head was born. This absence of respiratory depressant effect in the child has already been noted, in reports on the intravenous use of pentothal, both by Solomons (1936) and by Kassebohm and Schreiber (1938).

The degree of analgesia attained is good, but the degree of amnesia, although variable, is not great; at first we were disappointed about this, but latterly we have revised our opinion for two reasons: (1) we have come to the conclusion, as a result of questioning our cases, that most women do not want the birth of their child to be an "absolute black-out" in their memory; and (2) we feel that, if the drug gives a good degree of analgesia, the need for anything more than a slight degree of amnesia, a bemusement of the senses, is automatically cancelled. The amount of genuine relief obtained by the summation of partial analgesia and partial amnesia is very considerable.

The duration of labour is not, so far as it is possible to say, lengthened by the administration of pentothal; often indeed it appears to be shortened, owing possibly to increased tonicity of the uterus. It is because of this possibility of increased tonicity that we refrain from administering pentothal acid to cases of trial labour until it is certain that the head will go through, and to occipitoposterior cases until the head is rotated. The only other contra-indication to the use of pentothal is toxæmia of pregnancy.

Invariably have we found that the more intelligent the patient and the more willing to coöperate, the better are the results. Some women are determined from the outset to extract the last ounce of dramatic value from their labour, and we fear that in these cases little can be expected in the way of good results. In the case of a woman who is willing to coöperate, however, results are good, and to obtain this result it is essential that the woman be told that she is being given a drug which will help her to sleep between the pains and will ease the pains when they come on. She should be further instructed to close her eyes at the end of each pain and to "allow" herself to go to sleep. There is no need to darken the room, but the patient should not be distracted by having strong sunlight pouring into the room and should be subjected to as little questioning and examination as is possible.

The forceps-rate in the series was 13 per cent. compared with 12 per cent. for the corresponding period last year. The ratio of primiparæ to multiparæ was 79 per cent. to 21 per cent.

Although we have stated the usual total dosage to be gr. 25–35, we have given up to gr. 65 with no untoward effects upon mother or child.

It is hard to differentiate between any of the excellent gas-and-air machines on the market, but we have found that the Wellhouse model, as described by Elam (1938), gives good results.

We have no hesitation in giving pentothal to any normal case of labour and have never regretted having done so, the results being eminently satisfactory in almost every instance.

SUMMARY

(1) Pentothal acid has been given to a series of women in labour in an attempt to ease their ordeal.

(2) The results have been very good: no harm comes to mother or child and labour is not prolonged.

(3) The patient sleeps between the pains and experiences a reasonable degree of analgesia; there is also some amnesia.

(4) The patients are almost invariably extremely coöperative during delivery.

(5) The administration of pentothal acid is simple and special precautions are not necessary.

My thanks are due to Mr. L. Carnac Rivett, Mr. F. W. Roques, and Mr. W. R. Winterton for permission to administer pentothal to the patients under their care. I am also very grateful to the house-surgeons, sisters, and nursing staff of the maternity department for their unfailing assistance and their many useful criticisms. The pentothal used in this series was kindly supplied in 4-grain tablets by Abbott Laboratories Ltd.

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THROMBOSIS AFTER INJECTION OF PENTOTHAL SODIUM

By Frankis Evans, M.B. Lond., D.A.

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Periodically cases are reported in which extensive thromboses occur in veins after the intravenous injection of Pentothal Sodium. For this reason the strength of the solution injected has been reduced from 10 per cent. to 5 per cent. However, experience shows that even with this weaker solution thrombosis does occur occasionally, as in the following case.

The patient was a man of middle age, stocky of build, and well covered. He was obviously of sedentary habit but had no organic lesion of the

vascular or respiratory system. He came under my care after a decision to manipulate his spine. For this purpose he was given Omnopon gr. ½ and scopolamine gr. 1/150 by hypodermic injection half an hour before the intravenous injection of pentothal sodium 0·5 g. in a 5 per cent. solution. The injection was made cleanly and easily into a prominent vein in the antecubital fossa; it took less than two minutes, and no fluid was allowed to escape around the vein. Forty-eight hours later the vein was tender and hard, but there was no redness or swelling round it. On discharge the patient had a hard cord, which was obviously the thrombosed vein, running up towards the axilla for some five inches, but it was no longer tender or painful.

Thrombosis is the penalty frequently paid for long-continued intravenous therapy, such as the postoperative use of saline, and this is not altogether unexpected. However, when thrombosis occurs after the injection of a 5 per cent. solution of pentothal, which only takes two minutes at the outside, it gives us cause for serious reflection. It will be interesting to note whether the use of a weaker solution averts this unpleasant occasional sequela.

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MEDICAL SOCIETIES

ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION

(*Concluded from p. 202*)

AT the meeting of the association on July 13 and 14, Dr. E. A. CARMICHAEL (London) opened a discussion on the

Physiopathology of Epilepsy

He said that, besides the sympathetic nervous system, other factors controlled cerebral blood-vessels, such as local intra-arterial pressure and gas tension and adrenaline-like and choline-like substances. There was as yet no positive evidence to support a theory of vasomotor disturbance as a causal agency. He showed tracings giving evidence of systematic disturbance during a convulsion.

Mr. G. D. GREVILLE and Mr. TUDOR JONES, Ph.D. (Runwell), in a paper on water metabolism in essential epilepsy, described the diurnal water exchange in two patients over about four months and in a third patient over one month. Similar measurements were made on two non-epileptic patients as controls. No certain evidence was obtained that the urinary excretion was decreased before a fit and increased afterwards, as has been often claimed. The water balance was determined daily. The daily excretion of chloride in the urine under constant salt intake at two levels also failed to show any relation to the incidence of fits. Serial investigation was also made of the concentration of blood constituents which might be affected by changes in the water content of the organism—plasma protein and non-protein nitrogen, hæmoglobin and total solids in whole blood. Here again the variations were apparently unconnected with the incidence of fits, contrary to the findings of other workers.

Dr. D. J. WATTERSON (London) described his studies on convulsive phenomena and the effects of cerebral vasodilator drugs. Two recent pieces of evidence lent support to the so-called vasoconstrictor theory of convulsive states: the histological finding that the Cardiazol convulsion in cats is preceded by a generalised or circumscribed narrowing of the cerebral blood-vessels, and the observation that certain drugs which cause cerebral vasodilatation inhibit hypoglycæmic convulsions in dogs and, under certain circumstances, cardiazol convulsion in man. Convulsions were induced in guineapigs by the intramuscular injection of cardiazol. These closely resemble those produced by intravenous injection, but the convulsive phenomena are spread out over a period of minutes. The convulsion is accompanied by a profound fall of pulse-rate and change of heart rhythm. These events are not associated causally with the convulsion. The administration of choline derivatives does not inhibit the convulsions. When amyl nitrite is administered, between the time of injection and the point at which convulsive phenomena might be expected, the chance of convulsion occurring is greatly enhanced.

Dr. A. MEYER (London) said it was now widely recognised that the histological changes in idiopathic epilepsy were secondary to the convulsions and not their cause. The lesions are due to ischæmic necrosis, and some of them are in characteristic regions. Epileptic convulsions set up secondary lesions in the brain which may give rise to mental and neurological disorders. The danger is greatest in infancy and early childhood, and W. Scholz has suggested that mental defect and other characteristic infantile conditions may be caused more often than realised by epilepsy. The ischæmic changes have been taken as evidence of a vasoconstrictor pathogenesis of the fit. Recently Scholz and his collaborators have tried to show by means of a benzidine stain, anæmia of the brain immediately preceding cardiazol convulsions in cats. Dr. Meyer showed slides suggesting that other than purely vascular conditions must be responsible for the histological changes observed after fits.

Mr. W. GREY WALTER (Bristol) said that the only prominent feature of the normal electro-encephalogram (E.E.G.) is the alpha rhythm, which comes from the parieto-occipital cortex and is seen usually only with the eyes shut and the mind at rest. The other parts of the brain do not normally produce any regular rhythms. In certain neurological conditions, especially cerebral tumour and epilepsy, the affected part of the brain produces slow waves easily distinguished from the normal discharges; these are called delta waves. In cerebral tumours, the tissue responsible for the slow discharge is not the tumour itself but the neighbouring cortex, which has been interfered with by the new growth, and there is some indication that the cortex produces delta waves in certain intermediate stages of dystrophy or degeneration, and these are often associated with œdema in the neighbourhood of the tumour. It has been found that in "people complaining of fits," whatever the causes may be, about 50 per cent. show an abnormal E.E.G., and of those with abnormal records the great majority are clinically idiopathic epileptics; of these the great majority will be under 40 years of age. Cases with a well-authenticated history of trauma do not usually show any abnormality; it is probable that the slow delta discharge is an indication of fundamental cortical abnormalities which would not be expected in a patient with a splinter of bone or contracting scar causing mechanical cortical irritation. In epileptics the abnormality of the E.E.G. is a

continuous delta discharge similar to that found in cerebral tumour, but usually qualitatively different. This discharge goes on continuously and is not affected greatly by the administration or withholding of drugs, although it does show spontaneous fluctuation in size associated with fluctuations in the frequency of fits. If the E.E.G. is taken during a fit very dramatic changes can be seen. Lennox and his collaborators in Boston distinguish three types of seizure discharge: a smooth slow rhythm of high potential associated with "psychomotor" attacks, a slow rhythm with sharp spikes associated with "petit mal" attacks, and a fast rhythm associated with "grand mal" attacks. They have also found, and this has been confirmed by many workers, that in a number of cases "sub-clinical" seizures can be detected by electro-encephalography even when the patient is unaware of the attack; only by careful and continuous observation of the patient's performance of some intricate task can these be detected clinically. The discovery that most young idiopathic epileptics show an abnormal resting E.E.G. can be of great assistance, not only in diagnosis but in prognosis, and in following the results of treatment. It may be said without reservation that a delta discharge in the E.E.G. of a patient, complaining of fits or showing a spasmodic behaviour disturbance, is a certain indication that the patient is suffering from, or is likely to suffer from, idiopathic or essential epilepsy, and the prognosis is that associated with this condition. Conversely a normal E.E.G., although not a certain sign of normality, is suggestive of the possibility of some element other than epilepsy, and the prognosis is correspondingly better than if the E.E.G. is abnormal. In a patient in whom hysteria is suspected the diagnosis can be clinched by inducing a fit. If the E.E.G. remains normal the fit is not a true epileptic one.

Mr. N. W. DOTT (Edinburgh) gave a general review of the surgical aspects of epilepsy.

Social and Therapeutic Aspects of Epilepsy

Dr. J. TYLOR FOX (Lingfield) said that treatment of epileptics should begin at a well-equipped residential neurological centre, whence the cases could be classified into certain broad groups to be dealt with on different lines. Epilepsy has grave social implications, and if treatment, in the wider sense, is to be effective, there must be a link between the patient in his home and the physician. Psychiatric social workers are very important in completing the scheme of treatment.

Dr. G. E. GRAVES PEIRCE (London) discussed the problem of the epileptic in industry.

Dr. W. MCCARTAN and Dr. J. CARSON (Haywards Heath) spoke on the use of sodium diphenyl hydantoinate in epilepsy. Putnam and Merritt set out to find the ideal anticonvulsant in a large series of animal experiments; they first established the "convulsion threshold" of different animals to electrical stimulation, and then produced variations in this threshold by various methods. Of a series of about 100 different chemical compounds, some of them fairly closely related to sodium diphenyl hydantoinate, they found the latter most efficacious, having regard to its high anticonvulsant properties, its comparatively low toxicity and the absence of sedative effect. The results of their clinical application of this drug, which has been marketed in the United States under the name of Dilantin, and later in England under the name of Epanutin, have been most encouraging, and the results in the Brighton Mental Hospital correspond, although the time available since the publication of Putnam and Merritt's work has not made it possible to try the drug in a large series of cases or over a long enough period. There is a close chemical relationship between sodium diphenyl hydantoinate and phenyl ethyl hydantoin, otherwise known as Nirvanol. This latter drug has been used in the past in the treatment of epilepsy on the Continent, and more recently in the treatment of chorea. Poynton and Schlesinger have described the uses of nirvanol and its toxic effects. Some of the latter correspond with the toxic effects of sodium diphenyl hydantoinin, but no suggestion of the serious blood changes occasionally produced by nirvanol has been found in repeated blood examination of patients treated by epanutin.

Dr. C. G. MILLMAN reported on five years' experience with Prominal as routine treatment for epileptics. The Cell Barnes colony had been opened for the admission of mentally defective patients in March, 1933. Until February, 1934, Luminal had been used in the routine treatment of epilepsy; since then prominal had been used. In July, 1937, a report had been published comparing the results of treatment with the two drugs in a series of 39 cases. Collectively the number of fits with prominal had been found to be approximately a third of the number with luminal. Improvement in behaviour had been noted in many cases. Individual results had shown much variation; most of the patients had improved with prominal, some had shown little change, and a few had become worse. Dr. Millman now discussed the subsequent history of those remaining; on the whole, improvement had been maintained. Prominal had been used in 154 cases; the records of these had been examined and points of possible interest coördinated. Two fatal cases of uræmia possibly due to prominal were reported and subsequent precautions described. A case resembling aplastic anæmia developing in a patient under treatment with prominal was described, although the condition was probably coincidental. The effects of substituting soluble phenobarbitone for prominal in 32 low-grade cases were discussed. Results of treatment in 16 cases over a period of one year with each drug were shown to be slightly in favour of prominal. The economic factor was considered. An attempt was made to define the type of case most suitable for prominal. Findings, though equivocal, suggested that high-grade patients with relatively few fits at regular intervals responded most favourably, whereas unsuccessful cases included a number of psychotics. The possibility of a classification on therapeutic grounds was suggested.

Dr. ISAAC FROST dealt with the use of sodium diphenyl hydantoinate in the treatment of epilepsy, with observations on severe cases. After favourable reports had been made by Merritt and Putnam on the use of this drug in convulsive disorders, Dr. Frost had tried it in 12 cases of epilepsy, in which there were 60 to over 1000 major fits a year. Observations so far had extended over two or three months. In 2 cases there had been an apparently complete remission of major attacks, and 2 others had averaged 1–2 fits a month. In 5 others the reduction in the number of fits had been over half. In the remaining 3 cases, though there had been a reduction in the number of attacks, the results had not been striking. Previously unrecorded minor toxic symptoms had been noted—e.g., epistaxis, nodding of the head, and myoclonic phenomena. "Epileptic equivalents" did not seem to be so well controlled by the drug, though in the favourable cases the mental alertness was in great contrast to the dulling effect of the usual anticonvulsants.

Prof. F. L. GOLLA summarised the papers and emphasised the factor of cerebral excitability and its variations in epilepsy.

REVIEWS AND NOTICES OF BOOKS

Orthopædic Appliances

By HENRY H. JORDAN, M.D. London: Humphrey Milford, Oxford University Press. 1939. Pp. 412. 21*s*.

THIS book ought to be in the hands of the surgeon who is inaugurating or in charge of a splint workshop, as well as accessible to the head mechanic, for it gives minute and practical details of the construction of every important piece of apparatus. These are illustrated by first-class photographs and line drawings. The author uses great judgment in his selection of apparatus; he has drawn his ideas from both sides of the Atlantic, and has added ingenious designs. In a foreword Dr. E. G. Brackett agrees with the author that the proper selection and final adjustment of an appliance are as essential as is the detail of the operative treatment, and that knowledge, skill and personal supervision are required for its proper use. If this book induces its readers to give more attention to acquiring such skill it will have benefited an enormous number of patients.

In the section on spines, the author rightly stresses the difficulties of supporting this complex and mobile region of the anatomy. He points out how essential it is to prepare a plaster-of-paris model of the trunk, on which to construct the apparatus, such a model being made and adjusted by the surgeon, who alone can judge its fundamental features. In Britain this stage is often left to brace-makers, nurses, or inexperienced residents. The designing of such a brace demands constructive thought, as well as good judgment and skilled workmanship. He divides spinal supports into supporting and corrective, but agrees that there is a very limited field indeed for the latter, as practically all correction should have been completed before a removable brace is prescribed. Further, rigid supports are more comfortable than flexible ones. He stresses the important principle of 3-point pressure for nearly all braces; all trunk apparatus must take its base on a well-fitted "pelvic cage." He does not recommend the celluloid corset, which seems so popular in spite of its essential weakness and lack of adjustability. He illustrates and recommends a number of Hohmann's ingenious devices, which are not easily accessible to the English-speaking surgeon, and therefore are not as widely used as they should be. These include the cork and celluloid buttress, which has revolutionised the treatment of neglected kypho-scoliosis, the spiral-iron for lower limb apparatus, including the valuable club-foot type, and some for the upper limb.

The author insists on a point which the professional instrument maker is loth to recognise—namely, that the introduction of joints into apparatus adds greatly to its weight and only in exceptional cases has compensating advantages. The importance of controlling the trunk when fitting shoulder abduction splints is noted, a thing commonly neglected, and the author illustrates an effective and simple piece of apparatus of his own design for traction on the upper arm. There is also a clear description of simple knee and ankle supports of leather, made on the principle of the many-tailed bandage.

In a book of this size from the U.S.A. one would have expected an account of Goldthwait's various simple and extremely valuable spinal supports, yet the author entirely ignores them. Can it be that the city of Boston has not been heard of in New York? There are some smaller omissions of useful devices that might well be included in a later edition. Among these are the "banjo" traction splint for stiff fingers, which proved so valuable in the late war, a grid over a radiator for drying plaster-of-paris casts, and a blacksmith's tongs for spreading open a cut plaster before removal and for moulding in-turned edges.

The Chemistry of Milk

(2nd ed.) By W. L. DAVIES, Ph.D. Camb., D.Sc. Wales, F.I.C., research dairy chemist and analyst, National Institute for Research in Dairying, Shinfield, Nr. Reading; assistant for research in dairy chemistry, University of Reading. London: Chapman and Hall. 1939. Pp. 534. 25*s*.

GROWING realisation of the unique importance of milk and its products in human nutrition has led to increasing interest in its fundamental chemical and biochemical problems. The new edition of this book gives an up-to-date and complete account of most aspects of this general theme. Though new information has been incorporated where necessary, the author does not always give the latest available information on the chemistry of some of the minor constituents of milk, for example, in the case of vitamin B_1. The introduction of a paragraph on the hormonal control of milk composition is welcome, but recent work might have been more fully considered. The section which will probably be of most interest to medical readers is that which deals with the nutritional value of milk. This describes recent work on the thorny question of the effect of pasteurisation on the value of milk as a food.

Unfortunately the book is still marred by frequent infelicities of English, such as, "This *period* of rapid oxygen-absorption is contemporaneous with the *region* of tallowiness" (our italics). Sometimes the writer's meaning is obscure, as in the following: "The presence of oleic acid makes the fractional crystallisation of the lower acids difficult and so is used only when an estimate of the higher saturated fatty acids is needed." Also authors' initials might have been given in the bibliographies which follow each chapter, and more care taken in compiling the author index. Apart from these blemishes, which may readily be remedied in the next edition, the book can be strongly recommended as an authoritative and comprehensive account of the subject.

Annual Review of Physiology

By JAMES MURRAY LUCK, editor, and VICTOR E. HALL, associate editor. California: Annual Reviews, Stanford University. 1939. Pp. 705. $5.

THE volume of physiological "literature" which appears month by month has been sufficiently deplored; to describe it again would be to waste superlatives. Let us admit at once that the title of this review is heroic and the conception admirable. The result is a partial solution to the problem of the harassed scientist confronted with a menacing flood of print. While some may be harassed more by the mental picture of themselves drowning in this flood than as a result of actually taking arms against a sea of troubles, it cannot be denied that the problem exists. Physiologists may already congratulate themselves on having at their service a comprehensive series of abstracts in German, brief abstracts in at least two English journals, and two well-known and other less-known review journals. Now this annual review appears which differs from the others in being

committed to survey recent work in every branch of physiology at one- or two-yearly intervals.

The book will be of greatest use to the physiologist in his rôle of teacher. Most investigators find little difficulty in keeping up to date in their own field and would not be helped materially by these brief reviews which, though thorough, are not all comprehensive. But the editors hope, by changing the authors, to vary the approach to the different subjects—there are 24 sections, each by a different author—so that with the passage of time the series on any one topic will become increasingly valuable. In ten years' time they may be a godsend to the new research-worker. Meanwhile it is not going too far to suggest that it is the duty of all who teach physiology to read the greater part of this book in order to acquaint themselves with progress in lines other than those which specially interest them. Sections on such subjects as radiation, genetics, developmental physiology, anæsthesia and physiological psychology look strange to English eyes (though one of them is written by an Englishman), but present boundaries have been determined largely by tradition and we can no longer afford to neglect advances in closely related fields.

The reader will encounter a variety of styles, ranging from Gesell's dramatic presentation of respiration and its control, to the skilful mosaic of Evans on endocrine glands, and the monotone of Bozler on muscle. The lasting value of the book will depend more on its successors than on itself. It is a good beginning.

A Bibliography of the Writings of Harvey Cushing

Prepared on the occasion of his seventieth birthday, April 8, 1939, by the Harvey Cushing Society. Springfield: Charles C. Thomas. 1939. Pp. 108. 85.

IT is seldom that the writings of a medical man are sufficiently numerous to enable his admirers to prepare a Festschrift of this character. We have here the imposing total of 13 books and monographs and 306 papers. In addition there is a list of 328 papers from Dr. Cushing's clinics and laboratories. Notes are appended to many of the entries explaining the occasions of addresses and lectures, and appraising the larger works.

In a happily phrased foreword, Dr. Arnold Klebs speaks of the functions of birthday cakes and explains the suitability of the present volume as a substitute. This elegant tribute to a great man is limited to 400 copies.

British Journal of Surgery

THE July issue contains the following articles:—

INCREASED and DECREASED DENSITY OF BONE, WITH SPECIAL REFERENCE TO FIBROSIS OF THE MARROW. By H. A. T. Fairbank (London). Osteoporosis and osteopetrosis may be associated, or one may follow the other, in an individual case. The common factor of fibrosis of the marrow is traced in various bone diseases. Parathyroid dysfunction is suggested as the cause of renal rickets and of "marble bones."

IMPROVED SPINAL ANALGESIA. By Graham MacPherson (Hull). Light Percaine solution (1 in 1500 in ¼ per cent. saline) is the author's choice. He describes the technique he has used successfully in 513 cases and marshals his arguments in favour of percaine and of the use of a hypobaric solution.

THE TREATMENT OF EMPYEMA THORACIS BY HIGH NEGATIVE-PRESSURE DRAINAGE. By E. R. Trethewie (Melbourne). A historical survey of the treatment of empyema is followed by a discussion of the great advantages of closed drainage and of negative pressure. Eighteen patients on whom the author's method was employed all recovered.

VERITOL: A BLOOD-PRESSURE STIMULANT FOR USE DURING AND AFTER OPERATIONS. By Harold Dodd and Gerald Merton (London). From experience of its use in forty major surgical cases the conclusion has been reached that veritol is a reliable and satisfactory drug for restoring blood-pressure. Its action is transitory.

SPONTANEOUS RUPTURE OF THE GALL-BLADDER, WITH MASSIVE INTRAPERITONEAL HÆMORRHAGE. By Robert Mailer (Glasgow). At operation blood was found oozing from a rent in the gall-bladder adjacent to the liver. From the absence of bacterial inflammatory change in this case and in 30 other acutely inflamed gall-bladders examined the conclusion is drawn that the vascular changes associated with impaction of the stone are the most important.

VASCULAR ANOMALIES OF THE UPPER LIMBS ASSOCIATED WITH CERVICAL RIBS. By R. M. Hill (Keighley). Report of a case in which removal of the rib and of a fibromuscular band relieved pain, with diminution of swelling and improvement in the colour changes of the hand.

THE VASCULAR COMPLICATIONS OF CERVICAL RIBS AND FIRST THORACIC RIB ABNORMALITIES. By K. C. Eden (London). Three cases are reported, two treated by excision of the cervical rib, and one by excision of part of the first rib. The vascular changes are said to be due to damage to the wall of the subclavian artery by intermittent pressure.

SUBLINGUAL DERMOIDS. By Hamilton Bailey (London). The swelling occurs above or below the mylohyoid, and in either a median or a lateral position. Removal by incision below the angle of the jaw is advocated.

A CASE OF COLOCOLIC INTUSSUSCEPTION DUE TO DYSENTERIC ULCERATION. By Major F. M. Collins (Vizagapatam). The patient, an emaciated Indian, had recurrent colic, with two attacks of acute dysentery. He died after resection.

SPONDYLOLISTHESIS. By Wilfred Kark (Pontefract). In the case reported injury occurred eleven days before the radiogram was taken revealing the displacement. Reduction was effected by a combination of slinging the trunk in semiflexion with application of weight extension to the lower limbs.

THE SUPPORT OF THE SHOULDER: A NEW ABDUCTION SPLINT. By W. A. Cochrane (Edinburgh). The body portion of the splint is a modification of the Goldthwait spinal brace. The abducted arm rests upon a supporting base formed by the pelvis and spine.

SUCCESSFUL IMPLANTATION OF CUT PANCREATIC DUCT INTO THE DUODENUM. By D. J. Harries (Cardiff). The duct was cut during the freeing of the posterior surface of the stomach in a very difficult gastrectomy. There were no complications from the anastomosis.

CONGENITAL ABSENCE OF THE RIGHT FEMUR. By Kamalakar Manohar (Bombay). Rudiments of the upper and lower ends were present, but neither hip-joint nor knee-joint. A complete description is given of the anatomical findings at necropsy.

CONGENITAL DEFECT OF THE SHAFT OF THE FEMUR. By H. H. Langston (Alton). Three cases are described of a congenital deformity due to retardation of ossification of the upper half of the femur. The condition is often associated with absence of the fibula and with bowing of the tibia. The treatment is discussed.

GALL-STONES AND CANCER: A PROBLEM OF ÆTIOLOGY, WITH SPECIAL REFERENCE TO THE RÔLE OF IRRITATION. By Harold Burrows (London). Gall-stones from non-cancerous patients were introduced into the gall-bladders of 33 guineapigs. In 18 others various foreign bodies were introduced in combination with cholesterol or with carcinogenic agents. All the animals were allowed to die natural deaths and lived from 9–359 weeks. None developed cancer. It is concluded that chronic irritation is not the cause of cancer of the gall-bladder.

The issue contains an appreciation of the late Charles Herbert Fagge, and there are also short notes of rare or obscure cases.

CONTROL OF THE COMMON FEVERS

ERYSIPELAS

Reviewed by DR. THOMAS ANDERSON, *deputy physician-superintendent of Ruchill Fever Hospital, Glasgow*

THREE years have now elapsed since Prontosil Rubrum (sulphamidochrysoidine) was first used in this country in the treatment of erysipelas. The time is not unsuited, therefore, for a critical assessment of some of the factors involved in the control of this common disease.

The clinical appearance of a case of erysipelas is too well known to require repetition here. Comment may, however, be made on one point. Formerly the condition was classified as either idiopathic or traumatic according to the absence or presence respectively of an obvious focus for the entrance of the infection. Recently the knowledge of the bacterial origin of the disease has led to the assumption that all cases are traumatic in the sense that there must be a focus of origin, which might, however, be microscopic. Although this observation is correct in lesions involving the limbs and trunk, it is not true of those involving the face, where most of the idiopathic lesions are seen. Careful history-taking in such cases reveals that in many of them the onset of erysipelas is preceded by a definite infection of the upper respiratory tract; tonsillitis, pharyngitis, and rhinitis, not infrequently accompanied by epistaxis, may be present for a period up to ten days before the dermatitis appears. This fact has not received the prominence which it deserves, although it has been mentioned by some writers (Keefer and Spink 1936, Benson 1938). The explanation of this may be that only those cases which occur in surgical wards are usually transferred to fever hospitals; in Glasgow some 50–60 per cent. of all notified cases are removed to one fever hospital. Under these conditions a considerable number of true idiopathic cases are constantly observed. In a disease whose clinical features are often upset by the presence of some complicating factor—infective, degenerative, or metabolic—the use of the term "idiopathic" to describe cases in which the onset is marked by an early acute inflammation of the upper respiratory tract separates a group more amenable to clinical comparison and bacteriological study.

Bacteriology.—That erysipelas is a streptococcal infection is no longer in doubt. Much labour has been expended in an attempt to prove that a specific streptococcus is responsible for it. Most workers, however, now agree that the same streptococcus can be responsible for various diseases, and Okell (1932), producing case-records to show the protean clinical manifestations of the same infecting agent, supports this so-called "unitarian" hypothesis.

The classification of strains from erysipelas by Lancefield's precipitin test or by Griffiths's serological method has not been extensively practised. The organisms are usually of Lancefield's group A (human) although Griffiths (1934) refers to a type-VII strain as belonging to group C. The occurrence of erysipelas in contacts of definite cases of scarlet fever and its association with this disease in small epidemics make it extremely unlikely, however, that there is any essential difference between the streptococci which cause the two diseases.

Control.—Since erysipelas of trunks and limbs may be regarded as traumatic in origin and erysipelas of the face, when not traumatic, is usually due to infection of the upper respiratory tract, control is limited to treatment of the fully established disease and to prevention of recurrence (as distinct from reinfection).

RELAPSE AND RECURRENCE

An interesting feature of erysipelas which has defied an exact explanation is the relapse or recurrence so often seen. Keefer and Spink (1936, 1937), Gay and Rhodes (1922), and Dochez and Stevens (1927) explain it by showing that after the primary attack the skin remains hypersensitive to the streptococcus or its bacterial products. Keefer and Spink report a case in which a typical recurrence resulted after the injection, at some distance from the original lesion, of a toxic filtrate from the patient's own streptococcus. Amoss (1931), commenting on the difficulty of isolating the infecting strain from recurrent cases, also suggests that second attacks may be due to bacterial products draining through the skin rather than to a fresh invasion. Benson (1938) alludes to the possibility of septic foci remaining in the associated glands and paranasal sinuses as a cause of recurrence. Up to the present, however, there has been no evidence to show whether the infecting strain of streptococcus in the recurrence is serologically the same as or different from that of the primary attack. In this respect the absence of recurrence in cases receiving sulphamidochrysoidine or its congeners is, perhaps, a material fact. Previously a direct antibacterial therapeutic approach was lacking. Attenuated or degraded streptococci might remain in the tissues after the primary attack and be responsible for the recurrence. During the course of an extensive investigation of the value of chemotherapy with these new drugs I noted that the proportion of patients admitted who had previously had an attack of erysipelas had progressively diminished throughout the period of the experiment (table I). The investigation was carried out in three consecutive series: in the first and second every alternate case received treatment with sulphamidochrysoidine or its derivative, sulphanilamide; in the third all cases were so treated. Table I shows a gradual fall in

TABLE I—RECURRENCE OF ERYSIPELAS

Series	Number of cases studied	Percentage of cases in which the patient had had a previous attack
1	312	28·6
2	270	19·3
3	242	15·0

the percentage of recurrent attacks during the period when an increasing number of patients were receiving the drugs. The figures support the view that recurrence may arise from bacteria remaining in the tissues after the primary attack of erysipelas. It is important in this respect to distinguish between reinfection and true recurrence. A patient with a fungating carcinoma or a chronic discharging sinus is constantly susceptible to a reinfection of the open site with hæmolytic streptococci. It is unlikely that any treatment could protect such a person from a repetition of the attack of erysipelas. It seems, however, that with the new methods of treatment the recurrence, previously so common in idiopathic erysipelas, is

one of the features of the disease which is now under control.

PROGNOSIS

One of the difficulties is that there is no method of assessing the severity of erysipelas clinically. In some patients, despite an exceedingly angry-looking local lesion with moderate pyrexia, there is practically no other evidence of toxæmia; in others the local lesion appears to have little activity, although there is a high pyrexia with a severe toxæmia. Such variations are only seen when many cases can be reviewed by the same observer, and they demonstrate the difficulty of prognosis in each case.

A further difficulty is that in an appreciable percentage of cases, although the initial efflorescence of the lesion in the first twelve to twenty-four hours may be active and rapid, the infection seems, in this short period, to reach the limits of spread. In such cases, despite the angry appearance of the lesion when first seen by the physician, further spread will not take place. There is unfortunately no method of foretelling when this will happen. In a recent series studied clinically, for the purposes of a therapeutic experiment, every third case admitted to the erysipelas wards received initially powders containing sugar of milk. In some of these cases the results of such treatment were recorded as "excellent." Spread of the lesion had ceased within twenty-four hours of admission in 35 per cent.; and nearly 38 per cent. were afebrile after forty-eight hours in hospital. (These results do not merely represent the proportion of mild cases coming into hospital; some were assessed on admission as "severe" and many as "moderately ill.") These figures demonstrate that the assessment of the value of any treatment is exceedingly difficult, and that any report suggesting that a certain therapeutic measure is efficacious must satisfy the following criteria: (1) the number of patients treated must be large; (2) there must be no selection of cases for treatment, all cases being included in the series studied; and (3) an alternative method of treatment must be used and patients entered to the two groups strictly in order of admission. Finally, when the results are assessed, it must be remembered that probably a third of the cases would have shown spontaneous cure in respect of spread of lesion and pyrexia within twenty-four to forty-eight hours of the start of treatment.

TREATMENT

Although the easy recognisability and the fact that its course can be followed from day to day seem to make erysipelas an especially suitable disease for the study of the therapeutic efficiency, in man, of different methods of antistreptococcal treatment, certain points must be borne in mind. In streptococcal infections two main features may be noted: a toxæmia due to a diffusible exotoxin, the other due to that invasiveness which is a feature of the streptococcus. Longcope (1938) suggests that the variety, special character, severity, and outcome of hæmolytic streptococcal infections are determined by the predominance of one or other of the biologic properties of the particular infecting organisms and by the interaction of these forces on the varying resistance, immunity, susceptibility, or allergy of the host. In scarlet fever, for example, the early toxæmia and rash are due to circulating toxins, and some of the complications, such as suppurative adenitis, are due to invasion by the bacteria. In erysipelas, on the other hand, the infection is dangerous by reason of its invasiveness into the tissues or blood-stream. Birkhaug (1927), introducing antitoxic treatment, suggested that the results of his experiments presented a striking parallel with those reported by Dick and Dick in scarlet fever. Francis (1928) pointed out that on clinical grounds there was little reason for suggesting such a parallelism. A comparison of the age-incidence in the two diseases alone suggests that the factors operative in them are not similar. The adoption of the "unitarian" view regarding the bacterial origin of the streptococcal infections has tended to involve a unitarian approach in regard to their treatment. There is reason for suggesting that treatment, to be effective, must be aimed at the particular feature of the infection which is uppermost, and, a priori, there is good ground for believing that scarlet fever and erysipelas, differing so much in their clinical features and pathogenesis, would not be amenable to similar methods of treatment.

A review of the published reports of the treatment of erysipelas is not encouraging. One feels that to claim efficacy for a new method of treatment requires some audacity. No longer ago than 1928, Symmers claimed that the introduction of specific antitoxic treatment in erysipelas marked an advance whose results were only commensurate with those obtained by the antitoxic treatment of diphtheria. Parish and Okell (1928) showed that hæmolytic streptococci from various sources produced similar lesions when injected intradermally in rabbits, and they suggested that all hæmolytic streptococci were identical in their toxic action. They further suggested that a single antitoxin (scarlet-fever antitoxin) could effectively neutralise this single toxin. It would be anticipated therefore that the therapeutic efficacy of "specific erysipelas" antitoxin and scarlet-fever antitoxin would be similar. The following experience does not appear to confirm Symmers's optimistic prediction.

TABLE II—RESULTS OF TREATMENT BY VARIOUS METHODS OF CASES JUDGED AS "VERY SEVERE"

Group	Method of treatment	Factor of assessment	Duration in days of spread of lesion and of primary pyrexia						Total cases in group
			0	1	2	3	4	5+	
1	Sulphamido-chrysoidine	Spread	7	6	3	2	1	0	19
		Primary pyrexia	0	4	6	5	1	3	
2	Ultraviolet light	Spread	0	2	5	2	2	4	15
		Primary pyrexia	0	0	1	1	4	9	
3	Sulphamido-chrysoidine+ ultraviolet light	Spread	1	4	3	0	0	0	8
		Primary pyrexia	0	2	1	2	0	3	
4	Scarlet-fever antitoxin	Spread	0	1	0	3	2	1	7
		Primary pyrexia	0	0	0	0	0	7	

Note.—In the original investigation from which these figures are taken the number of cases in groups 1 and 2 was double that in groups 3 and 4.

In a preliminary series of 312 cases treated, strictly in order of admission, with sulphamidochrysoidine, ultraviolet light, a combination of these two treatments, or scarlet-fever antitoxin it was noted that 49 had been classified by me as "very severe" on admission to hospital (Snodgrass and Anderson 1937a). A separate analysis of these cases (table II) shows that those treated with antitoxin gave the worst results.

Colebrook (1935) suggested that patients with puerperal fever treated with scarlet-fever antitoxin did badly. Later Kenny and Colebrook (1937) showed that most patients with puerperal fever

reacted negatively to the Dick test. Many observers have noted that in erysipelas the Dick test is usually negative. Since scarlet-fever antitoxin is mainly if not entirely anti-erythrogenic, it seems that its administration to persons insusceptible to the toxin (as judged by the result of a Dick test) is unlikely to be beneficial.

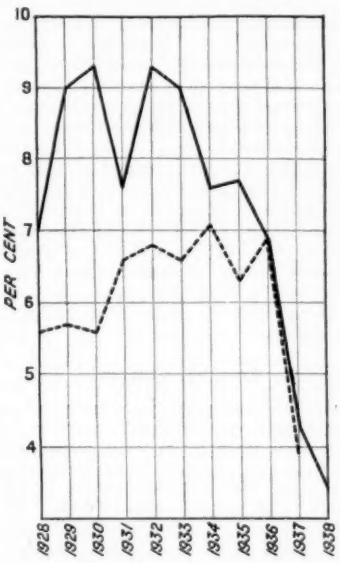

FIG. 1—Erysipelas. Comparison of death-rate for England and Wales (interrupted line), calculated from the Registrar-General's (England and Wales) Statistical Review, 1937, Part I, Medical, and case-mortality in Ruchill fever hospital (continuous line).

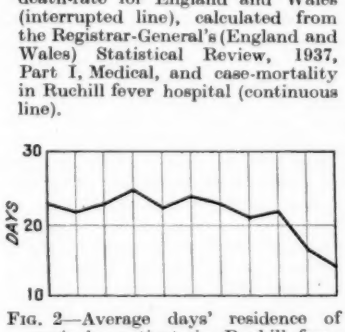

FIG. 2—Average days' residence of erysipelas patients in Ruchill fever hospital during the same years.

Chemotherapy with one or other of the sulphonamides has been extensively reported. The great majority of these reports are in favour of the value of the drugs. Few of them, however, satisfy the criteria enumerated above. In fact in only two series of cases outside Great Britain has the number exceeded 100; and an alternative and concurrent control has usually been neglected. Studies of 824 consecutive cases have been reported from Ruchill fever hospital (Snodgrass and Anderson 1937a and b, Snodgrass, Anderson, and Rennie 1938), and a summary of these results is shown in table III. The figures leave little doubt of the efficacy of the new treatment.

It has been suggested, however, that in the years preceding the introduction of sulphamidochrysoidine there had been a gradual decrease in the virulence of streptococcal infections, and that only part of the success of the new chemotherapy is due directly to the action of the drugs. Fig. 1 has therefore been prepared in an attempt to view the matter more objectively. The graph shows that there has been, so far as erysipelas is concerned, no obvious change in the case-mortality for Ruchill fever hospital or in the death-rate for England and Wales during the period 1928–36. The latter in fact suggests that there was a gradual though slight increase in the severity of the disease up to and including 1936. The drop in the 1936 case-mortality at Ruchill is explained by the fact that from May, 1936, half the patients received sulphamidochrysoidine, though in rather small dosage. These curves may be read in conjunction with that showing the average days' residence of patients with erysipelas in Ruchill during the same period (fig. 2). (The average days' residence of patients in a fever hospital is a not unsuitable figure for measuring the severity of a disease. The constant demand for beds and the lack of visitation by relations make it certain that the patient is dismissed as soon as possible.) There appears to be a close similarity between the three curves. Such change as has taken place seems to have followed the introduction of the sulphonamide drugs and not to have preceded it. There seem to be, therefore, reasonable grounds for presuming that the control of erysipelas by effective treatment is now an accomplished fact.

TABLE III—RESULTS OF TREATMENT OF 824 CASES OF ERYSIPELAS

—	Cases treated by control methods	Cases treated with sulphanilamide or related compound
Percentage showing no spread after 24 hours in hospital	57·2	86·2
Percentage showing cessation of primary pyrexia within 48 hours of admission to hospital	50·3	75·5
Case-mortality per cent.	5·0*	2·8

* It should be noted that, having proved in the first series of 312 cases that sulphamidochrysoidine was of value in the treatment of erysipelas, thereafter patients responding badly to the control methods of treatment received a sulphonamide compound.

Adequate chemotherapy cures erysipelas in practically all cases within three or four days. The three preparations which have been most extensively used are prontosil rubrum (sulphamidochrysoidine), Rubiazol (carboxysulphamidochrysoidine) and *p*-aminobenzenesulphonamide. The last-mentioned drug is properly referred to as sulphanilamide, although it is often designated by different trade names.

TABLE IV—DOSAGE OF SULPHONAMIDES IN ERYSIPELAS

Age-group	Dosage in grammes per 24 hours		
	Sulphamidochrysoidine	Carboxysulphamidochrysoidine	Sulphanilamide
Adults	9–12	2–3	6–9
5–10 years ..	6–9	1–2	4·5–6
Under 5 years ..	3–6	0·5–1	3

Table IV shows the range of dosage which should be employed in different age-groups. Children tolerate the drugs exceedingly well, and, since the disease is often most severe in infancy, relatively large doses may be administered, especially in the early stage of treatment. To maintain an effective concentration of the substance in the blood, the drug should be given by mouth at four-hourly intervals. Preparations may be obtained for parenteral administration but show no therapeutic advantage over the oral route.

If the suggested dosage is used, the lesion will cease to spread within forty-eight hours, and in most cases the temperature will return to normal within three or four days of the start of therapy. Should this not happen, the diagnosis should be reviewed; the presence of some septic complication should be excluded, and the question of fever directly due to the drug should be considered. Full dosage should

be used until the temperature returns to normal, after which the drugs should be continued in a dose of 0·5–1 g. thrice daily for ten to fourteen days. When this is done, recurrence of the disease is unusual.

Finally, during the administration of these drugs certain rules should be rigidly applied (Snodgrass and Anderson 1937b). In such circumstances the toxic effects of the drug will be minimal. Reference should be made to the original papers for information about the toxic effects usually encountered.

CONCLUSION

In the present stage of knowledge the control of erysipelas depends on the adequate treatment of the infected patient with one of the sulphonamides. In such circumstances relapse and recurrence will become less frequent, although reinfection will not be prevented.

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MEDICINE AND THE LAW

Police Complaint of Panel Doctor

THE Derby insurance committee last week disposed of what seems a novel point of panel practice. The chief constable had formally complained of the conduct of a doctor in circumstances to which he took "strong exception." A man who was on the doctor's panel had been found dead. The police had informed the doctor by telephone, and at the request of the widow had asked him to call. The doctor, it was said, had replied "I will call on my morning round. You have a police surgeon; make use of him; I will give him all the assistance I can regarding the man's medical history." The complaint was referred to a subcommittee, to which the doctor gave a slightly different version of the facts. The police, he stated, asked him to come round at once to pronounce life extinct, although they assured him that the man was dead and had been dead for some time before he was found. As nothing more could be done for the patient, he promised to call next morning to see the widow and to give his opinion on the cause of death; he did so and gave the police all the information he possessed. He maintained that he was under no obligation to visit anybody at the request of the police, even if they guaranteed his fee. As regards his duties under the terms of service, he always understood that death put an end to the patient's insurance.

Misunderstanding is always possible in telephone communications. An insurance practitioner would presumably be right in challenging the authority of the police to summon him to view the body of a panel patient who had been dead for several hours. On the other hand he would feel obliged to attend if the patient's wife sent for him because her husband was in extremis. The chief constable told the subcommittee that the doctor was wanted, on behalf of the widow, to examine the body because the police had no authority to pronounce a man dead. The police sergeant who had sent the telephone message gave evidence that he told the doctor he was speaking for the widow. On the other hand the doctor said that he did not understand that the police were calling him on the widow's behalf; that was why he suggested making use of the police surgeon if the case was urgent. The subcommittee's report seems to have supported the doctor's attitude. The insurance committee, adopting the subcommittee's findings, decided to take no action in a matter which they considered to be outside their jurisdiction. They decided that the doctor had not committed a breach of the terms of service.

Slander of a Medical Officer

If medical officers of health inevitably encounter hostility in the discharge of their duties, they ought at least to be protected from a campaign of abuse. In a case recently heard in Dublin Dr. D. McCarthy, formerly county medical officer of health for North Tipperary, recovered substantial damages for defamation from Mr. Daniel Morrissey, who had accused him of furnishing a false report to the local authority. Dr. McCarthy was responsible to the North Tipperary board of health for the health and cleanliness of children attending elementary schools in the board's area. In March, 1938, he and his assistants examined the children attending the convent girls' school at Nenagh, and he forwarded his report to the board. He complained that in the following month the defendant declared on several occasions that the report was absolutely untrue. "I know," the defendant was alleged to have said, "that there are children going to school who received a 'yellow ticket,' classifying them as dirty, but there were no cleaner children to be found in Nenagh, in Tipperary or in Ireland." The defendant, as a member of the Nenagh urban district council, moved a resolution strongly protesting against Dr. McCarthy's report as "a scandalous reflection on the town and a gross slander on the mothers and teachers of the children of Nenagh." Dr. McCarthy contended that these words imputed impropriety, misconduct or incapacity to him in the discharge of his profession and his office, and he pleaded further that, owing to the slander, he had been unable properly to perform the duties of his office and was forced to resign it. The defendant pleaded all the defences usual in such proceedings—denial that he spoke the works, denial of publication, denial that the words were defamatory, privilege as a district councillor, honest belief in the truth of the statements, and fair comment on a matter of public interest. He also contended that the allegations were in fact true.

Mr. Justice Hanna upheld the plea of privilege in respect of one of the occasions when the words were uttered, but not in respect of another occasion. The jury found in favour of Dr. McCarthy and assessed the damages at £600. The plaintiff's position as medical officer of health had clearly been made impossible and he is to be congratulated on the vindication of his character. A public servant who must report only what is palatable would be of little use to the community.

THE LANCET

LONDON: SATURDAY, JULY 29, 1939

TOWARDS MENTAL WELFARE

THE best preparation of a people for peace or war must be soundness of body and mind. In these days of suspended crisis much attention has rightly been devoted to the body, and the organisations that aim at promoting physical health are busily engaged in coördinating their efforts and making their schemes part and parcel of the educational system. The physical-fitness campaign may be regarded as the third stage in a movement which had its origin in the sanitary efforts of the pioneers of the nineteenth century and led on to the preventive medicine triumphs of the twentieth. But physical fitness alone is a barren ideal: it can bear no fruit unless it is mated with intellectual fitness. This fact, too, is at last gaining recognition, but although mental health has become an object of public concern, there is as yet no single efficient organisation for turning this concern to practical ends. Efficient and valuable organisations there undoubtedly are, but these have not been fully coördinated or their resources concentrated where most needed. We have depended too long on the generosity of the Commonwealth Fund of America in carrying out functions that are our elementary duties as a nation. Much of the work in this field has been done by voluntary bodies, so it was appropriate that they should take the initiative in establishing "a single directive force to guide the development of the service and to lay plans for future action on a united front." The committee which has met under the chairmanship of the Earl of FEVERSHAM has wisely gone beyond the immediate domestic matter of coördination or fusion, and has reviewed the whole problem of mental health in this country. Its report is a pathetic record of our failure to undertake one of our most urgent social obligations. The lack of an organised mental health service is serious enough in peace-time; in times of stress it is a public danger of the first order.

The clear and balanced report, of which a brief summary is given on p. 274, deals comprehensively with this tangled subject. It will be appreciated by all who have complained of the difficulty of seeing the wood for the trees. The trees are indeed varied, some stubborn and gnarled, others luxuriant and even rank, with their interlacing roots and struggles for light and nourishment, leading to an obvious ecological problem. The solution of this problem—how all the necessary kinds of psychiatric activity are to live together harmoniously—has been the chief business of the committee. Seeing the matter as a whole, they can propose measures which take account of the public services of the Government or local authorities, and of the essential, if at present supplementary, services rendered by voluntary bodies. There is a clear case for the amalgamation of the existing voluntary associations—the Mental After-Care Association, the Central Association for Mental Welfare, the Child Guidance Council, and the National Committee of Mental Hygiene. The first of these bodies has declined to merge itself in the proposed National Council for Mental Health, but this has not hindered the Feversham committee from putting forward the general plan. There is no aspect of mental health work which has not been touched on in the report, though administrative questions have received more attention than research, teaching, and clinical principles, all of which are fundamental to the developments foreseen.

The recommendations cover a wide range. Mental deficiency is an instance in which big alterations are recommended. The experts will warmly support them. It is proposed that the Mental Deficiency Acts should omit references to educational incapacity and adopt the criterion of social inefficiency, educational retardation being left to be dealt with under the Education Act; it is urged that defectives, like the mentally disordered, should be able to obtain institutional treatment voluntarily, and that the procedure for guardianship should be simplified and made less formal. Welcome emphasis is placed on social aspects in the four chapters dealing with mental disorder, mental deficiency, delinquency and the mental health of children. Few people who are not psychiatrists recognise how indispensable to efficient work in any of these fields is the psychiatric social worker, whose training and equipment are now highly specialised. It is anticipated in the report that the demand for trained social workers will presently far exceed the supply, and it is therefore urged that similar courses to that provided by the London School of Economics should be arranged at the great teaching centres.

Perhaps the most interesting recommendation of the committee is its advocacy of psychiatric clinics with inpatient and outpatient facilities. In populous areas these would be special hospitals, and in smaller centres special blocks adjacent to the general hospitals. Where a medical school is within reach, the special psychiatric hospital for early mental and "functional" nervous disorders should be established in close association with it. There should, in short, be hospitals on the model already familiar in some university centres in the United States and on the Continent, and in England represented by the Maudsley Hospital. Such hospitals, in each of the university centres, would provide teaching facilities for medical men and psychiatric social workers, and in many ways would advance psychiatry throughout the country. There would be, as the committee points out, close coöperation between the special psychiatric hospital on the one hand, and the mental and general hospitals on the other. Grouping of mental health work on a regional basis, as is done with other branches of public health, and adjustment of the boundary between statutory and

voluntary activity, with greater coöperation between them, are obvious needs which the report puts with convincing objectivity. In its combination of enthusiasm for the main end and detachment from rivalries and partisan claims it is a document of great value, which will be of historic importance in the growth of the mental health services of this country.

ACTIVITY OF GONADOTROPHIC PREPARATIONS

ONE of the chief obstacles to the clinical use of gonadotrophic substances is the difficulty of securing accurate information about their biological effects in women. Much of the information on which therapy must be based has to be obtained from laboratory animals, and its value is greatly reduced because the response to gonadotrophic substances differs widely from species to species: what is true of one animal is not necessarily true of another—or of the human patient. This variation between species is, at least partly, attributable to the fact that the response of the gonads to gonadotrophic substances is sometimes modified by the concurrent activity of the animal's own pituitary, especially where the initial changes in the ovary, or the extract itself, stimulate pituitary secretion. Writing in the first issue of the new *Journal of Endocrinology*, NOBLE, ROWLANDS, WARWICK and WILLIAMS [1] take it as proved that the apparent response of the ovary of the immature rat to the gonadotrophic substance of human urine of pregnancy is largely caused by the hormones of the rat's own pituitary. In the intact immature female rat the ovary responds by enlargement of follicles (which may be followed by ovulation), and the formation of normal or atretic corpora lutea, or sometimes blood follicles. On the other hand, in immature rats deprived of their pituitary the only change in the ovary evoked by chorionic gonadotrophin is a diffuse luteinisation of the stromal and thecal tissue. This suggests that human urine of pregnancy contains but a single gonadotrophic substance, with a luteinising action; whereas, without experiments on hypophysectomised animals it would naturally be deduced that such urine has both follicle-stimulating and luteinising activity.

No-one can yet say how far the endogenous gonadotrophic hormones contribute to whatever effects follow the administration of gonadotrophic substances to women in whom there is reason to suspect hypogonadotrophism. It is unlikely, however, that the participation of the intact pituitary gland is as important in women as in rats. Information more relevant for clinical purposes might therefore be obtained by using experimental animals in which the pituitary has little influence. For this reason, as well as because of their blood-relationship to us, one would expect to get the most valuable information from a study of the effect of gonadotrophic preparations on monkeys, in which tests carried out on intact immature females have yielded little evidence of interference by the pituitary body. In a paper just published DE FREMERY [2] not only summarises existing information for this class of animals, but adds new and significant data. He has compared the effects on the ovary of immature macaque monkeys of gonadotrophic extracts from the pituitary of pigs and of human beings, from human placentas, from human urine of pregnancy and from human urine during the menopause. Of these various preparations the chorionic gonadotrophin was found to have no obvious action in the dosage used, and it seems therefore that in macaques, and possibly in all primates, this type of gonadotrophic preparation has no power to cause direct enlargement of the graafian follicle. Exactly the same lack of response was seen when extracts of human placenta were used—a result which supports the view that the substances of human urine of pregnancy and of human placenta are identical. Extracts from urine of the menopause stimulated the follicle slightly. With extracts of pig pituitary, however, strong stimulation of the follicle was observed; and there was no luteinisation, which is interesting because luteinisation is the chief effect of a pig-pituitary extract on the immature rat, or even the hypophysectomised rat. The effects of pig-pituitary extracts in monkeys further differed from those in rats in that the effectiveness of the extract was not increased by the simultaneous administration of chorionic gonadotrophin or by the Maxwell technique (admixture of zinc sulphate). Extracts of human pituitary gave intense follicle-stimulation, and it is noteworthy that the human pituitary, tested on monkeys as on rats, has a greater content of gonadotrophic material (per mg. of dried tissue) than the pituitary of any other species. Extracts of human pituitary, like those from the pig, produced no luteinisation in the immature monkey.

From DE FREMERY'S results it seems that immature monkeys of the kind he used are almost wholly irresponsive to luteinising substances, since extracts which are purely luteinising had no effect at all, and extracts which on hypophysectomised rats produce a dual effect stimulated only the follicle of the monkey. The significance of these observations is not quite clear, but they apparently imply that the clinical use of luteinising preparations, in the hope of stimulating the development of luteal tissue, should be undertaken with reserve, while the maturation of the follicle by such preparations is improbable. On the other hand, if the monkey results are applicable to human beings, one would expect to find that stimulation of the follicle could be achieved fairly readily in women by the use of those gonadotrophic preparations that evoke (mainly or exclusively) this effect in test animals. Such preparations are now commonly available in the form of the gonadotrophic extracts from pregnant-mare serum, and it is encouraging to know that clinical tests of this comparatively new and potent material are now being actively pursued.

1. Noble, R. L., Rowlands, I. W., Warwick, M. H., and Williams, P. C., *J. Endocrinology*, June 1939, p. 22.

2. de Fremery, P., *Quart. J. exp. Physiol.* 1939, **29**, 203.

THE EMERGENCY BLOOD-TRANSFUSION SCHEME TO DATE

THE first phase of an organised effort to provide a reserve of blood-donors for London and the Home Counties in the event of a possible emergency came to an end on Saturday last. There is general agreement, strengthened by the lessons of the war in Spain, that blood-transfusion would play a major part in the treatment of air-raid casualties; hence the provision of an adequate supply of blood must be counted among the essential medical preparations for civil defence. The exigencies of casualty treatment during repeated air-attacks might render blood-matching, or even the determination of the recipient's blood-group, exceedingly difficult; there are obvious arguments for relying, in the main, on universal donors, and on a supply of stored blood. In this way it would be possible, given adequate supplies, to ensure that each casualty hospital would be able to perform a large number of transfusions with a minimum of delay. Here again valuable lessons have been learned from the war in Spain.

The inauguration of the sector-scheme for emergency hospital services in London and the Home Counties provided an opportunity for planning a coördinated blood-transfusion service for this area; it was decided to establish four main depots—at Luton, Slough, Sutton and Maidstone—at which blood from universal donors could be collected, stored, and distributed to the London sectors. The Medical Research Council, acting on behalf of the Ministry of Health, undertook the organisation of these main depots. It was evident, however, that such depots could not be relied on to function during the first few days of an emergency, and that it would be unwise to leave the casualty hospitals without an alternative source of supply, even at later stages. It was therefore decided that, in addition to the donors required by the depots (most of whom would be drawn from the areas in which these are situated), a large number of volunteers should be enrolled and tested, who would be living, or working, in the more central areas of the London sectors. The organisation of this part of the scheme was deputed to a committee of sector-pathologists, working under the group hospital officers, the Medical Research Council acting only as a coördinating and advisory body.

The first essential was clearly the enrolment of an adequate number of universal donors, and this involved the grouping of a very large number of volunteers. Assuming the usual proportion of group IV blood (40 per cent., or a little over), and allowing for the migration that would probably occur in an emergency, the number of volunteers required in the London sectors alone has been estimated at about 100,000, and about an equal number would be required by the four depots. The depots, drawing volunteers from their immediate neighbourhood, were able to start the grouping earlier, and to envisage a long campaign of testing. They were aided by the British Red Cross, and by other voluntary organisations. The testing of volunteers in the London sectors was a more difficult undertaking. A wide appeal for donors meant the maintenance of many testing stations, so that any volunteer could enrol at some station near his or her home or place of work. In the event it was found possible to maintain some eighty testing stations in the London sectors during the three weeks, July 3 to 22. Each station was open every week-day from 10–12 and from 5–8. The whole of this work fell, so far as the taking of blood-samples was concerned, on the hospital pathologists, their technical staffs, and senior medical students from the teaching hospitals. The sacrifices demanded have been very great, since there could be no cessation of ordinary hospital activities; and the goodwill with which this added burden has been shouldered by all concerned is an example of what can be done by voluntary coöperation. It was necessary to provide an efficient clerical staff, in addition to the technical staff concerned in blood-testing, and here the Women's Voluntary Services have played a major part, supplying workers to assist at the testing stations and at certain central stations where much of the clerical work was done. On the appeal side, a group of publicity experts, the press, and the B.B.C. all afforded help.

As the result of this coördinated effort some 50–60,000 volunteers have already been tested in the London sectors, apart from those tested at the depots. The campaign has made an excellent start; but it must clearly continue, though in London it must be at a less breakneck pace. Some thirty stations in the London sectors are remaining open, the hours of attendance being changed from 12 noon to 6 P.M., and the four main depots will continue to enrol and test volunteers until they have obtained the desired numbers. A list of these stations is available in every post office. In the provinces plans are not, in general, so far advanced. Here the service must clearly be developed on a local basis, in accord with local needs and opportunities, though it is expected that the enrolment forms and cards that have been used in London will be made available to local authorities through the Ministry of Health, and the apparatus devised for use in London and the Home Counties might with advantage be adopted elsewhere.

The appeals of the last few weeks have aroused the interest of the general public and have shown how readily people respond when told of an important service which any healthy person between 18 and 65 can perform.

The Privy Council have appointed Mr. GERARD ROBERT HILL, C.B., who recently retired from the Parliamentary Counsel's office, to be chairman of the Statutory Committee of the Pharmaceutical Society.

We regret to announce the death last Sunday of Mr. ARCHIBALD YOUNG, regius professor of surgery since 1924 in the University of Glasgow. A week before, in view of his approaching retirement at the age-limit of 65, he had been presented with his portrait by his colleagues and friends in Glasgow.

ANNOTATIONS

LONDON WATER

MEMBERS of the Paddington Medical Society who recently visited the Kempton Park works learned much about the London water undertaking. Some 310 million gallons of water are consumed daily by a population of about 8 million. The water is derived from the rivers Thames and Lee and from deep wells in the chalk or the greensand. The well-water is of high organic purity and usually free from any evidence of pollution. When however such evidence is present in the least degree the water is chlorinated before being passed into supply. The river water which provides four-fifths of the total is polluted before reaching the intakes, and to ensure that none of this pollution reaches the consumer this water passes through three stages of purification: storage, filtration and chlorination. The primary object of storage is the conservation of supply but its effect on the bacterial population of the water is profound. *Bact. coli*, which is the recognised index of sewage pollution, is usually present in 1 ml. of raw river water, while after about thirty days' storage in a reservoir it may be absent in 10 ml. or even in 100 ml. The water reaching Kempton Park works comes from the Metropolitan Water Board's largest reservoir, the Queen Mary, which holds 6750 million gallons; water is pumped into this reservoir from the Thames at Laleham at the rate of about 100 million gallons a day. On reaching the works the water first passes through rapid mechanical filters designed to remove the grosser forms of suspended matter such as algæ and silt. The visitors were shown these filters in operation and the method of washing them by air scour, followed by upward displacement of the accumulated deposit by water. The secondary filters consist of 12 beds, each of about $\frac{3}{4}$ acre, composed of a layer of fine sand, 2 ft. 6 in. thick, supported on shingle through which the water percolates downwards at the rate of 10–12 in. an hour. When these beds become choked they are cleansed by hand, the top "skin" being skimmed off and passed through sand washers. The effect of this filtration process is to reduce the *Bact. coli* content to such a degree that two-thirds of the samples contain none in 100 ml. In the final process of chlorination the water receives first a small dose of ammonia in the form of a solution of ammonium sulphate and then chlorine at the rate of 0·35 parts per million, the ratio of chlorine to ammonia being two to one. The liquid chlorine is contained under pressure in large steel drums, the gas being passed through a measuring device and dissolved in water in a solution tower. The solution of chlorine is then led to the general well through which all the water from the filters passes. By means of chlorination a standard approaching 100 per cent. of samples containing no *Bact. coli* in 100 ml. is maintained. Finally the visitors inspected the engines which pump the purified water to service reservoirs from which it gravitates to the consumers.

STUDY OF EPILEPSY AT THE BURDEN INSTITUTE

THE study of epilepsy is entering on a new and hopeful stage. Striking evidence of this was the allocation of two days at the Brighton meeting of the Royal Medico-Psychological Association (reported on p. 253) to the physiopathology of the disease and the directions in which the knowledge gained is leading therapeutic effort. The great need is for prolonged and leisurely study and it is encouraging to learn that Mrs. R. G. Burden, who has already earned the gratitude of all engaged in neurological and psychiatric research by founding the Burden Institute, has now enhanced its value by endowing a hostel of 30 beds for patients undergoing investigation at the institute. The hostel, which will be ready for use in a few months, is to accommodate patients in separate rooms with reasonable comfort. At first it is proposed to reserve this hostel for cases of epilepsy and allied conditions. The hostel will be under the control of a committee of the Burden Neurological Institute, the chairman of which is Sir Laurence Brock.

NUTRITION IN THE COLONIES

IT has long been known that abundance and deficiency exist side by side in tropical climes—"malnutrition rife in a land of natural plenty," as a writer of Grains and Scruples [1] said of the West Indies—and this is borne out by articles published in these columns in the last two months on a deficiency of vitamin B_1 in East Africa,[2] a deficiency causing endemic glossitis in Palestine,[3] a deficiency of vitamin-B_2 complex in the Straits Settlements,[4] and a deficiency of vitamin A in Ceylon.[5] In 1936 the then Secretary of State for the Colonies asked all colonial governors to report on standards of nutrition in their territories. On receipt of their replies a Committee of the Economic Advisory Council was appointed to sift the evidence, make recommendations, and remain in being in an advisory capacity. The report of this committee has just been issued in two parts, part I consisting of general information about colonial dietaries, a statement of the principles of nutrition and practical suggestions for improvement, and part II being a summary of information regarding each territorial unit of the Colonial Empire.

From this report it appears that colonial dietaries are predominantly vegetarian, only very small quantities of animal products, especially milk, being consumed; and many of the peoples depend on a single crop. There is consequently a deficiency of first-class proteins, calcium, and phosphorus. The dietary is also usually low in fats, fruits, and green leafy vegetables. Deficiencies of all vitamins except D are widely reported. The difficulty of distinguishing between the effects of a deficient dietary and those of an infection is emphasised. The committee consider that the two main causes of malnutrition in the Colonies are (apart from diseases) the low standard of living and ignorance, often combined with prejudice. The problem is one of improvements in agricultural production, on which the colonial population principally depends. A "balanced agriculture" is the answer to an unbalanced dietary.

The low consumption of milk and its products is striking in colonial dietaries. Little or no milk is consumed after weaning. There are, it is true, dangers associated with the use of fresh milk in tropical climes and in sometimes primitive conditions. Dried skimmed milk can be imported and is said to give better value for money than any other form of manufactured milk. Suggestions are also made for the further development of fisheries and for

1. *Lancet*, July 15, p. 156.
2. Mackenzie, A., *Ibid*, May 20, p. 1143.
3. Katzenellenbogen, I., *Ibid*, June 3, p. 1260.
4. Landor, J. V., *Ibid*, June 17, p. 1368.
5. Nicholls, L., and Nimalasuriya, A., *Ibid*, June 24, p. 1432.

the introduction of other crops, especially soya beans and ground-nuts; and a valuable appendix, written by Dr. B. S. Platt, shows how it is possible to live on well-milled rice as the sole staple food without developing beriberi, if the following conditions are adhered to: (1) the rice must be stored in such a way that it does not lose its vitamin B_1; (2) the rice must not be washed before being cooked; (3) there must be no superfluous water at the end of cooking; and (4) not less than 150 international units of vitamin B_1 must be supplied daily in the rest of the diet—e.g., 6 oz. of dried beans or 3 oz. of ground-nuts.

DR. WILLIAM BEAUMONT

THE main outlines of the extraordinary story of Alexis St. Martin and of the energy and skill of William Beaumont in seizing on a unique opportunity are well known to every student of physiology, but probably very few appreciate the magnitude and importance of Beaumont's contribution to knowledge. In fact there was but little detail of Beaumont's life or work available until the publication in 1912 of Dr. Jesse Myer's "Life and Letters of Dr. William Beaumont." The story is familiar. An accidental gunshot wound received at close quarters left Alexis with a permanent gastric fistula beneath the remains of his ribs. So far was this injury from interfering with his general health or his digestive capacity that he lived to eighty-three and was probably capable of much harder work than he was ever minded to undertake; for from many points of view Alexis was not an estimable character. Beaumont had been called to the patient at the time of the injury and had confidently predicted a rapid death. Contrary to his expectation Alexis survived, and Beaumont gave him the most devoted attention. When the charity of the township was exhausted, he took him into his own household and continued his treatment for nearly two years after the accident. By this time Alexis had regained his health and strength.

Though Beaumont had been interested by the nature of the injury and by the opportunity which it had afforded him of seeing the actual processes of digestion, it was many months before he realised the unique chance for scientific experiment. It is probable that at first he had carried out some investigations on the rate of digestion of various substances, but in a somewhat desultory fashion. At all events, about two years after the accident Beaumont had begun a planned series of experiments, and he continued them for more than a year, when they were abruptly terminated by the disappearance of Alexis. In spite of his best endeavours Beaumont failed to find any trace of Alexis for upwards of two years, and it was two more years before he was in a position to carry out further experiments, having taken Alexis into his household as a paid servant. By this time Beaumont and Alexis had become famous, at any rate within a comparatively narrow circle, for it was not till the publication of Beaumont's book in 1833 that his researches became widely known. Long before this, however, Surgeon-General Lovell had realised Beaumont's value and, by generous furloughs and by making Alexis a sergeant in a detachment of orderlies, had rendered him most valuable assistance. Indeed it is possible that without Lovell's aid Beaumont might have faltered in his purpose—but it is not probable, for the true scientific ardour which is obvious in all his work would not have recognised any barrier to be insurmountable. Lovell's successor as Surgeon-General was not equally in sympathy with Beaumont, and the clash between them ended in Beaumont's resignation of his commission. From this time onwards till his death in 1853, twenty years after the publication of his book, he led the life of a busy and prosperous medical man in St. Louis. Throughout this period he made repeated attempts to get Alexis to return to him but without success.

The work on which his fame rests was accomplished in the ten years between 1823 and 1833. What that work signified for the progress of the science of physiology is summed up in an appreciation by Professor Ivy, of Chicago, which is prefixed to a reprint of Myer's biography published this year.[1] In spite of certain erroneous inferences, Beaumont's record of fact is so incontrovertible and stated in so scientific a method that Professor Ivy ranks him high in the field of original research and regards him not only as the first of American physiologists but also as the first American exponent of the true scientific method.

EUTELEGENESIS

OUR U.S.A. correspondent has already noted[2] the remarkable experiment in artificial insemination made by Dr. Frances Seymour. Mr. and Mrs. K. had been married for eleven years and had been involuntarily childless. The husband's semen contained 94 million highly motile spermatozoa per c.cm. and the motility index was within normal limits. There were no discoverable defects in the wife's reproductive system and various therapeutic measures designed to promote fertility had proved ineffective. Dr. Seymour inseminated sixteen women, whose husbands were sterile, with Mr. K.'s semen. This step was taken with the consent and knowledge of the women concerned, though in several instances Mr. K.'s religion and nationality differed from those of the sterile husbands. It is further noteworthy that Mr. K. had the high intelligence quotient of 140 which, in Dr. Seymour's words, "throws him in the genius group." No pregnancies ensued from these sixteen inseminations. With the consent of the participants in the experiment, the same sixteen women were then inseminated with the semen of a man whose fertility had been proved by the fact that he was the father of two children. This man's intelligence quotient of 120 again placed him above the average. He was, moreover, an eminent figure in his profession and his wife, described as a highly intelligent college graduate, gave full consent. The sixteen volunteers and the wife of Mr. K., who was also inseminated, all became pregnant.

This novel experiment has several implications. It proves, in the first place, that the presence of adequate numbers of motile and vital spermatozoa is not a necessary index of fertility; and it raises important legal questions which are the subject of a leading article in the issue[3] of the journal of the A.M.A. which contained Dr. Seymour's report. The conclusion is reached that, in American law, children born of an artificial insemination by semen other than that of the woman's husband would be regarded as illegitimate. The question of adoption proceedings therefore arises:—

"The presumption of law that a child born during wedlock is legitimate is not absolute and conclusive under all circumstances. Even at early common law the presumption was overcome by proof of the husband's sterility. Today the presumption as to legitimacy is more easily controverted than it was in

1. London: Henry Kimpton. 21*s*.
2. *Lancet*, 1939, **1**, 1285.
3. *J. Amer. med. Ass.* 1939, **112**, 1832.

earlier times. Now it is generally recognised by the courts that a child is illegitimate, though born or begotten during marriage, when it is impossible that its mother's husband could have been its father. Every species of legal evidence tending to this conclusion is admissible on the trial of the issue as to its legitimacy.

"In many instances of artificial insemination, perhaps in a great majority, the facts may never be known to any one other than husband and wife, and the physician involved. There is the possibility, however, that interested relatives may learn of the circumstances and may procure the evidence necessary to overcome the presumption of legitimacy and may thus deprive the child of a share of intestate property. It is the just due of the child that false pride or considerations of delicacy be put aside and that it be given, through adoption proceedings, the protection intended by the husband of the mother when he consents to the artificial insemination of his wife."

Dr. Seymour's experiment shows that artificial insemination can be used with a eugenic purpose and the word "eutelegenesis" has been suggested by Mr. Herbert Brewer [4] to designate such an application of this measure. Its eugenic possibilities have further been discussed by Mr. H. J. Muller,[5] a pioneer in the field of experimental genetics. The possibilities of eutelegenesis are manifold and Dr. Seymour's experiment describes one of the simplest. It would clearly have been possible for Mrs. K., and for the sixteen women collaborators in Dr. Seymour's experiment, to have adopted children. But rather than adopt a child of alien and perhaps unknown parentage, they preferred to have a child of their own by a father of proved merit. There are clearly grounds for regarding such a course as, in some respects at least, emotionally preferable to adoption. The mother has the experience of maternity and the father's attitude to the child might be regarded as comparable to that of a stepfather towards the children of his wife by a previous marriage. It would be interesting to know how far Dr. Seymour's experiment would commend itself to couples in whom an undesired sterility is traceable to the husband.

DIPHTHERIA IMMUNISATION IN POLAND

IN 1936 compulsory immunisation against diphtheria was adopted by Poland for children between the ages of one and ten years, an urgent incentive for this measure being the growing incidence of diphtheria in the country, for there were more than three times as many cases in 1937 as in 1926. In a communication to the French Academy of Medicine Hirszfeld,[6] of Warsaw, has traced the progress of this measure in terms of vital statistics. It was necessary to pick out certain communities for his survey, because it has proved impracticable to apply the new law wholesale, without reference to social and geographical considerations. The law seems to have been framed in an elastic spirit, for while allowing provisional exemptions under certain conditions it also permits of the extension of the age-limit above ten if necessary. In Lodz, where 80 per cent. of the child population has been immunised, the diphtheria morbidity was five times, and the diphtheria mortality fifteen times, greater among the non-immunised controls than among the immunised children of the same age in 1937. In Warsaw, on the other hand, only 60 per cent. of the child population has been artificially immunised, and here, to judge by the number of notifications, the diphtheria morbidity has apparently been uninfluenced by immunisation. Hirszfeld has alternative explanations for this fact. The morbidity from diphtheria might have been even higher had immunisation not been partially effected, or immunisation may actually have enhanced the dangers for the non-immunised children by increasing the number of carriers of diphtheria—children who, had they not been immunised, would have contracted the disease and been isolated. If his second suggestion is correct, half measures in diphtheria immunisation seem to be a doubtful blessing.

4. *Eugen. Rev.* 1935, **27**, 121.
5. Muller, H. J., Out of the Night, 1935, Vanguard Press, London.
6. Hirszfeld, L., *Bull. Acad. Méd. Paris*, May 23, 1939, p. 712.

THE PERSONAL FACTOR

SCIENTISTS are human and being human tend to see their own work and that of others through the often distorting medium of their own personality, to be unfair to the unorthodox and original, and to put the claims of family or self-aggrandisement before the single-minded pursuit of truth. The genius in consequence is often unrecognised or recognised too late. In his "Scientists are Human" [1] Mr. D. L. Watson, Ph.D., has assembled an impressive array of geniuses that never gained official or academic recognition, but being human himself he has rather over-weighted the instances in favour of his theory and under-weighted the others. He allows that not every genius has died an embittered or thwarted man, but he does not seem to bring out that not all originality is genius, and that if the official scientist fails at times to appreciate the genius he also saves the world from much nonsense. Also, if the genius complains that one who came after him received the recognition denied to him, he must be sure that he gives due credit to those who preceded him. Dr. Watson has made some interesting contributions to a rather neglected aspect of scientific organisation. He finds a disproportionate emphasis placed on measurement, with a consequent neglect of the immeasurable. Classification, abstraction and hypothesis are useful tools, but they must not be allowed to become ends in themselves. The mental processes used in science have much in common with those used in the intuitive judgments of everyday life, and should be acknowledged as such. The student should be encouraged to respect his elasticity of mind rather than his infallibility, and for this purpose formal courses may prove a hindrance; their best value is for the student who is sufficiently mature to demand them. Dr. Watson's central theme is then that scientists should appreciate the inevitable consequences of their humanity.

EUGEN BLEULER

THROUGH the death of Professor Bleuler on July 15 Switzerland loses one of her most distinguished medical teachers and a psychiatrist whose name was familiar throughout the world. Born in 1857 of yeoman stock at a village near Zürich, Bleuler found his natural affinity in mental medicine and after qualifying became psychiatric assistant in Zürich, Berne, Paris, London and Munich before his appointment, at the age of 29, to the headship of the Rheinau asylum near Schaffhausen. He brought new life into that ancient institution by introducing occupational therapy and putting the slighter cases under care at home. He was one of the first asylum managers to recognise the value of Freud's teaching and he followed the developments of psycho-analysis

1. London: Watts and Co. Pp. 249. 7*s*. 6*d*.

so far as his realistic view and his acute judgment permitted. After the retirement of his teacher and friend, Auguste Forel, Bleuler succeeded him in the chair of psychiatry at Zürich and became director of the Burghölzli where he came in contact with C. G. Jung and published in 1911 "Dementia præcox or the group of schizophrenia." This book, based as it was on personal observation and on the Freudian conception of the unconscious, made him famous at once in the psychiatric world. He took the view that the schizophrenic psychoses present organic symptoms amenable only to somatic treatment and others which can be psychologically understood and dealt with by psychotherapy. He thus became the chief exponent of the psychological school in psychiatry and an originator of psychotherapy. Bleuler was an outstanding teacher and his pupils now occupy the chairs of psychiatry at Zürich, Basle and Berne. His teaching was not confined to his staff; he followed Forel in his crusade against alcoholism and an attempt to educate a wider public. Bleuler's own textbook of psychiatry, first published in 1916, went through several editions and was translated into many languages; but his scientific achievement did not prevent him giving personal care to every administrative detail in his institution. Modest in his own life, and a democrat at heart, his patients will remember him for his fatherly advice; during visiting hours at Burghölzli he was often to be found at the gate ready to give a friendly word to the relatives of patients. It was the combination of intelligence, character, self-discipline, industry and unfailing search after truth that enabled Eugen Bleuler to achieve what he did even within the span of 82 years.

PROPRIETARY MEDICINE LEGISLATION

WHEN the Chancellor of the Exchequer intimated his decision to maintain the medicine stamp duties for another year he gave a plain hint that the Government was prepared to examine proposals for controlling the sale of proprietary medicines by a method which would have regard to some other form of tax and, at the same time, to what he called "the aspect of public health." In more than one quarter this has been taken as an invitation for suggestions which might be examined with a view to embodying them in a measure of legislation, and in the circumstances it would not be surprising if the various interests vested in the proprietary-medicine trade as well as those who regard the question from the public-health aspect were giving the matter careful consideration. Professional and trading interests are in opposition and the interests of the several trade categories are also divergent. On the other hand the public interest is closely bound up with "the aspect of public health" and that should be the line of approach to the goal which the Government would naturally desire to reach. Thus the ideal method of solving the problem would be one prompted by public opinion which has no axe to grind, and it would seem that a possible measure of legislation has already been devised by parties who have no interest to serve other than the well-being of the community. It is understood that a bill has been drafted by a group of members of both houses of Parliament which seeks to control the traffic in proprietary medicines by requiring (1) the registration both of proprietors and the articles which they manufacture, and (2) the confidential disclosure of formulæ to the Ministry of Health. This draft bill also provides for the refusal to register proprietary articles whose composition is such that the articles cannot possibly produce the results claimed for them on the labels. The aim of the bill is not to interfere with legitimate trade but to put a check on heartless chicanery.

LOCAL AUTHORITIES AND VOLUNTARY HOSPITALS

THE Ministry of Health's last annual report (for the year 1937–38) expressed the opinion that local authorities might make still fuller use of their statutory powers to give financial help to voluntary hospitals. The report summarised those powers and the relevant passage is conveniently reprinted in Memorandum No. 132 issued by the Central Bureau of Hospital Information. The memorandum tabulates information, supplied in response to inquiry from the bureau, of 25 instances of financial arrangements of a capital nature between voluntary hospitals and local authorities. The statutory powers are to be found in the Public Health Act of 1936. First in order of importance to the hospital, perhaps, though not in the order devised by the draftsmen, is the power under section 181 (3) for a local authority to give reasonable subscriptions or donations to voluntary hospitals without entering into any agreement for the reception of patients. The only limitation here is the stipulation that the expense so incurred in any year is not to exceed the product of a 1½*d.* rate or such higher sum as the minister may specially approve. The memorandum seems to give no typical instance of a contribution of this kind, because usually the local authority puts up its money for specific facilities for patients. Secondly, there is section 271, which on the face of it is a mere supplementary clause for interpreting the meaning of the word "provide" in the act. This section enacts that any power of a council to provide buildings or other premises includes a power to equip them with necessary apparatus and instruments, and any power of a council to provide buildings, premises, accommodation, equipment or vehicles includes a power to make agreements for the use of any suitable buildings, premises, accommodation, equipment or vehicles. The result is that a local authority can agree with a voluntary hospital for the use of a complete block or wing in the hospital or for the use of X-ray apparatus or ambulances. Moreover, for such a purpose, the local authority can make a capital contribution to provide the buildings, apparatus or ambulances and can, with the minister's consent, raise a loan in order to do so. It is presumably under this section that the West Sussex county council has provided the Royal West Sussex Hospital at Chichester with £4000 and obtained in return the joint use of the deep X-ray therapy department. So also at Scarborough the borough council has provided £12,500 (secured on a mortgage of the whole of the hospital building) and obtains a maternity ward of 12 beds. Thirdly, there are subsections (1) and (2) of section 181 which give local authorities, as part of their general power to provide hospital accommodation for the sick, the right to make arrangements with voluntary hospitals for the reception of patients. As the Ministry of Health report points out, the hospital can build accommodation with the help of a capital contribution in respect of which the local authority can borrow money; the local authority can also pay for the maintenance of patients treated in accommodation provided by the voluntary hospitals. The Ministry observes that local authorities have made most use of this third statutory power. The Hertford-

shire county council, for instance, pays £2600 a year for thirty years for the use of 50 beds in the Hertford County Hospital, maintenance being at the rate of £1 per patient per week with a minimum of £21 per week (subject to periodical review). The Kesteven county council pays the Grantham Hospital £4368 a year for twenty years for the use of 24 beds for medical, surgical and maternity cases; this sum is intended to represent the cost of maintenance, remuneration of the medical staff and repayment of the capital cost, and the scale can be adjusted every three years according to any rise or fall in the average cost of maintenance. Naturally there is great diversity in this type of arrangement. This does not entirely exhaust the statutory powers. There is also section 67 of the Poor Law Act of 1930, enabling the councils of counties and county boroughs, subject to different limitations, to make annual contributions to the support and maintenance of a hospital. Finally the local authorities can arrange for accommodation in a voluntary hospital for the specialised health services, such as maternity and child welfare and the treatment of tuberculosis, venereal disease, and now perhaps cancer. There is evidence also of helpful local coöperation in such instances as the Bath Corporation Act of 1937, where the city makes a not ungenerous exchange of land and provides the Royal Mineral Water Hospital (now the Royal Hospital for Rheumatic Diseases) with foundations on a new site raised and levelled at the expense of the corporation.

TAVISTOCK CLINIC

PLANS are now ready for carrying on the Tavistock Clinic in war-time. Should an emergency arise the clinic will move immediately from Malet Place to the Orchard Wing of Westfield College, Hampstead, and all patients will be notified of the change. Private practice by members of the staff will also be carried on at Westfield. Those who are called up for service will be able to have their private work referred to their colleagues, and can arrange for all professional messages to be put through to Westfield College. The finance of the private side of the clinic will be centralised and all work done will be on a cash basis. After paying administrative and other expenses the first claim on the pool of private fees will be to make up the weekly salaries of all the medical staff who are doing whole-time work to the level of pay of a captain R.A.M.C.—namely, 11 guineas a week. The remaining members of the staff will declare their weekly earnings at the clinic office so that they can be taken into account in levelling up incomes. Any surplus in the pool will be held in the bank for distribution later.

CONFERENCE ON CRIPPLES

NEARLY 500 delegates attended the fourth world conference of workers for cripples held in London last week under the presidency of Lord Nuffield. This conference, the fourth of its kind in ten years, had as its object the interchange of views between all those concerned in the re-equipment of cripples for the work of life. Mr. Elliot, who was present as Minister of Health and reviewed the recent astonishing development of orthopædics, asked the conference to substitute the word "handicapped" for "crippled" to convey the hopefulness of the present outlook. Some well-known surgeons were present at the conference, but not so much as surgeons as in virtue of their interest in problems of organisation, educational training and rehabilitation.

A NATIONAL EMERGENCY MEDICAL SERVICE

A SCHEME has now been agreed between the Minister of Health, the Secretary of State for Scotland and the Central Emergency Committee of the British Medical Association providing for a national hospital medical service for the treatment of casualties in war-time. Doctors joining the service will assume for a period of three years a definite liability to serve in an emergency. The service will be recruited from medical practitioners other than those holding whole-time posts under the Government or local authorities. Those wishing to join should apply to the B.M.A., either directly or through their local branch, and not to the Ministry or Department of Health. There will be two classes of service, A and B.

WHOLE-TIME SERVICE

Class A.—Practitioners in this class will be called up for whole-time hospital service in war-time and will be liable to be transferred temporarily to any part of the country. Those needed at the outset will be called up immediately; others will be called up as required and in the meantime may be employed as if they were in class B. They will be paid on the following scale:—

(*a*) Consultant adviser	£1400
(*b*) Group officer	1300
(*c*) Medical superintendent—	
Hospital of 1000 beds and over	1200
" 750 " "	1000
" 300 " " *	900
(*d*) Officer in charge of surgical or medical division (hospitals of 500 beds and over)	950
(*e*) Surgeon or physician specialists	800
Other specialists in charge of departments	800
(*f*) Medical officers	550
(*g*) House officers	350

These salaries are on a resident basis. An allowance of £100 a year will be paid where board and lodging are not supplied.

* Special consideration will be given in the case of hospitals with less than 300 beds.

PART-TIME SERVICE

Class B.—Practitioners in this class will be liable for hospital service on a sessional basis in their own hospital area according to the needs of the moment. They will be paid on the following scale for work done in hospitals:—

(*a*) For consultant and specialist work.	£2 12*s.* 6*d.* per session of two hours' duration up to 5 sessions in any week, with £2 2*s.* for other sessions, subject to a maximum payment of 120 guineas a quarter.
(*b*) For general-practitioner work.	£1 11*s.* 6*d.* per session of two hours' duration up to 5 sessions in any week, with £1 5*s.* for other sessions, subject to a maximum payment of 75 guineas a quarter.

There will be no uniform for those employed under the scheme, but whole-time members will have a distinguishing badge or other emblem.

Doctors recruited for the service will be allocated to their war-time positions now. Thus there will be created in peace-time a complete system of casualty-hospital staffs which will come into action automatically immediately war is declared. The maintenance in every area of an adequate number of private practitioners who will continue their ordinary work in war-time will be secured, and arrangements have been made by which the practices of those who take up full-time work will be temporarily carried on by other doctors. Any doctor who is still uncertain as to the way in which he can best serve the nation in war-time should seek the advice of the local emergency committee of the B.M.A. in his area.

SPECIAL ARTICLES

BRITISH MEDICAL ASSOCIATION
MEETING IN ABERDEEN

THE proceedings of the representative body, which opened on July 21 with Dr. H. G. DAIN in the chair, were at first concerned with international tension and its consequences.

Contact with Doctors Abroad

The debates began briskly with an attack on the council's majority decision to withdraw from the Association Professionelle Internationale des Médecins (A.P.I.M.). Defending this decision Sir KAYE LE FLEMING (chairman of council) said he had always been very keen on international medical coöperation, but was not convinced that the A.P.I.M. has served any useful purpose or is likely to do so. The attendance at its meetings was very small; they were too widely spaced for any considered policy to develop; and delegates must speak French. As a means of enabling representatives of voluntary bodies to discuss medical problems the A.P.I.M. was a failure. It had never discussed the disasters that have overcome sections of the profession abroad. Lately the election of a Czech as president, and the choice of Prague as meeting-place, had had to be quashed because a member from a totalitarian state said that otherwise his government would not let him attend. Mr. R. SCOTT STEVENSON, leading the opposition for Marylebone, asked whether this country is going to abandon all international conferences because they are conducted in French. The A.P.I.M. was not the only body that is sparsely attended or has abandoned Czechoslovakia. Other representatives said that the B.M.A. must not withdraw from an organisation which it helped to bring to birth; that it must not foster the narrow nationalism now triumphing; and that it should lead rather than run away—improve the A.P.I.M. and not desert it. Dr. PETER MACDONALD (deputy chairman of the representative body) thought this the worst possible time at which to extinguish one of the last flickering flames of coöperation with other countries, and Mr. MCADAM ECCLES believed withdrawal from the A.P.I.M. would be a blow to the international medical societies of specialists. Mr. V. ZACHARY COPE said that anything that enables people of different nations to compare notes is good; that the B.M.A., with its expanding influence, should be in contact with Europe as well as the Empire; and that it would be disastrous to dissociate British doctors from colleagues on the Continent at this particular juncture. "If there is ever a time when professional people all over the world should keep together and give a lead this is it," said Dr. C. F. T. SCOTT. The practical merits of the A.P.I.M. as a bond were seriously questioned by one or two speakers, but the meeting accepted the Marylebone view that the B.M.A. should remain a constituent member of it.

Refugee Doctors

Dr. ERNEST WARD, for Torquay, criticised the council because, without consulting the representative body, it told the Home Secretary that the association had no objection to the admission of a further 50 refugee practitioners. This led Sir KAYE LE FLEMING to explain the steps taken. Before the B.M.A. was consulted some 200 doctors came into this country to practise. The council then protested and the Home Office agreed to consult it about the numbers henceforth permitted entry and the persons to be chosen. When accepted the foreign doctor must study medicine here for two years before registration, and for seven years afterwards he would remain under supervision by the Home Office, which could decide where he is to work. On these terms the B.M.A. consented to the admission of 50 Austrians. The further decision to take 50 Czechs had to be made at short notice, even before the council assembled; "and I would be ashamed," said Sir Kaye, "to meet this body and say we were not prepared to do for Czechoslovakian doctors what we have done for Austrian doctors." On hearing which, Torquay withdrew its objection.

Dr. J. MELVIN, for Wandsworth, proposed a counter-blast to the Trades Union Congress's light-hearted demand for the admission of more foreign practitioners: let the association agree to take one medical refugee for every thousand absorbed by other trades and callings. But Dr. A. A. LEWIS, speaking for Kensington, thought the protest undignified, and it went no further.

Asked to disclose how many refugees have been admitted to the Medical Register during the past twelve months Sir KAYE LE FLEMING said that in 1938 the number was 103, of whom 35 have joined the association. It was impossible to dissect the total so as to show the various grounds on which they secured registration.

Preparations for Emergency

Sir KAYE LE FLEMING recalled that by last autumn the emergency register of practitioners contained the names of 96 per cent. of the profession, with their qualifications and offers of service: "we knew all about them." But it was then realised that the information cannot be used effectively unless all applications for doctors come through a single channel. The present arrangement was that the Ministry of Health shall coördinate all requests from the services for medical personnel, and that military needs shall be met through the central medical emergency committee, which has been made fully representative of the profession. Demands for doctors to care for the civil population must all go to the local emergency committee of the area, and allocations would be made locally subject to the consent of the central committee. It had long been impossible to get an answer from the authorities about the status of doctors allocated to civilian hospitals, but the Government had now agreed to a scale of remuneration for the national hospital service, comparable to remuneration in the army. Those provisionally appointed to it must say they will serve for three years.

Brighton proposed that the cost of all this work by the central and local committees should be borne by the Government, and Prof. R. M. F. PICKEN also thought this fair, except in so far as the work is concerned with the protection of practices. Sir KAYE LE FLEMING said that in the early stages the association asked for no money; but the maintenance of the register had been very expensive and the six clerks now employed were paid by the Government. On the other hand he was strongly against asking the Exchequer to find all the necessary funds. The work represented a contribution to the public welfare by the B.M.A., which had gained a priceless privilege in ensuring that the profession will manage its own

affairs in time of emergency. More help might be asked; but "let us keep the control of this machinery in our association, and be proud of it." Here Mr. H. J. McCURRICH pointed out that though aid is being given at the centre none is available at the periphery, and the local committees can ill bear the expense. Incidentally, said Brighton, the money is being spent partly for the benefit of doctors outside the association.

Dr. MELVIN said it was laid down that no-one under 35 should be earmarked for A.R.P. work; the younger men were expected to enter the Services. What was now happening, however, was that young men were being refused hospital posts because they *are* in the Services. The hospitals did not want to employ men who would at once be called away. He suggested, for Wandsworth, that "no candidate for appointment to the position of house-physician, house-surgeon, registrar, or member of the honorary staff of any hospital shall be asked to state whether he is or is not a member of the Territorial Army or other auxiliary forces of the Crown."

Mr. McCURRICH asked how hospitals in reception areas are to be carried on if they are filled with refugees and the majority of the staff are removed. Nobody wished to penalise anyone joining the Territorials, but how was the work of hospitals to be done if men were appointed to them who would leave at the beginning of an emergency? Dr. LEWIS replied that posts should be filled according to the ability of the candidate and nothing else. Mr. McCurrich's hospital should not punish applicants because of a possible war; it should have a shadow scheme that would work without them. Dr. E. R. C. WALKER thought it impossible to prevent prospective employers asking about the military obligations of employees; but it might be laid down that such obligations should not stand in the way of their appointment.—The suggestion was referred to council.

Dr. C. M. STEVENSON said that his "safe" area, with a population of 100,000 or so, had been told that it would receive 25,000 children, 1000 blind, and 300 women on the point of confinement. Many of the local doctors would have been called up and "we want to know what we're to do about it." Sir KAYE LE FLEMING told him that the Government has accepted responsibility for payment for the medical care of the officially evacuated. He also assured Torquay that in war-time steps would be taken to supply practitioners with petrol.

The meeting unanimously approved a motion by Dr. GLADYS BOYD, for Edinburgh, that medical officers should be attached to the Women's Auxiliary Services, that these medical officers should be women, and that they should examine recruits.

Afterwards

Schemes are being devised to ensure that practitioners undertaking service shall find their livelihood preserved on returning after a war. Dr. WARD said that in time of war all practice in London and some of the large towns might cease, whereas there would be an increase in reception areas. His division, Torquay, thought the proposed plans for filling in cards to be forwarded once a month to a classifying bureau would break down. It might be preferable for the practitioner treating the case to give half the fee to the patient's own doctor. To this belated criticism Sir KAYE LE FLEMING wrathfully replied that the card system had been approved after consultation with areas where schemes were worked successfully during the late war, and was now ready for operation in four-fifths of the country.

The council has recommended that when a practitioner is called up in *peace-time* under the Auxiliary and Reserve Forces Act the names of his insured patients attended in his absence by another practitioner shall be restored automatically to his list "except in the case of those insured persons who express a wish to the contrary." Dr. J. B. S. GUY wanted this exception removed, since patients might get used to their temporary doctors and the absentee might suffer great loss of practice. Mr. A. HEDLEY WHYTE thought the words positively give a lead to patients to stay with their new doctor. Sir KAYE LE FLEMING, commenting on the plan that patients should be compelled to return to the absentee practitioner's list for a year, remarked that the B.M.A. holds by free choice of doctor. Under existing law the term of peace-time service was limited to three months.

Dr. DOROTHY MASON, for St. Pancras, wished to see provision made for pensions for doctors disabled on A.R.P. work, or for their dependants. In recent A.R.P. exercises Dr. J. W. WIGG had been impressed by the danger of medical work in air-raids. The general public could stay in dug-outs; but not the doctor. Service officers worked with more enthusiasm, he thought, for the knowledge that their widows will be provided for. Sir KAYE LE FLEMING sympathised with this view; but what about the nurse and the A.R.P. warden? Doctors could not claim special privileges and the Government regarded the problem as too complex to tackle at present. The central emergency committee would nevertheless keep it before the authorities.

Tunbridge Wells, represented by Dr. A. M. POLLOCK, hoped that the Government will protect the financial interests of medical men on national service, as it has been protecting those of the militia—e.g., as regards suspension of interest on loans and mortgages—and that it will also provide a gratuity at the end of the war to compensate them for loss in the capital value of their practices. To Sir KAYE LE FLEMING this sounded unduly acquisitive. Those who claim the privileges of independent practice could not also claim the privileges of the whole-time Government servant. A practical method of protecting practices had been organised, and with goodwill it would work. If a doctor's colleagues could not do him justice, was it likely that M.P.s would do so? And "Heaven help the man who thinks the Government will introduce legislation for this purpose!"

A request has already been circulated that no permanent appointments shall be made in war-time to the medical staffs of Government departments, local authorities, or voluntary hospitals. Portsmouth wanted to go further and say that "if, owing to nationality or any other reason, a doctor has not undertaken or has refused to undertake national service he shall not be eligible for any such permanent appointment after the emergency." This motion was lost, however; for, said Sir KAYE LE FLEMING, this is a free country, and "what restrictions can we provide to prevent such a thing happening?" If all appointments went through the local emergency committee they would have a good chance of objecting.

Hospital Contributory Schemes

The revised hospital policy of the B.M.A. sets out a scale of incomes above which (it is suggested) no-one should be allowed to join a hospital contributory scheme or receive free treatment at hos-

pital from the visiting staff. The upper limits of income are as follows:—

1. Single persons over 16, or widows or widowers without children under 16: £200 a year, or £4 a week.

2. Married couples without children under 16, and persons with one dependant under 16: £250 a year, or £5 a week.

3. Married couples with a child or children under 16, and persons with more than one dependant under 16: £300 a year, or £6 a week.

These limits, it is stated, are applicable to London; elsewhere they would need to be lower, according to the local circumstances.

East Yorkshire and Exeter proposed that each of these income limits should be reduced by £50—i.e., to £150, £200, and £250—with scope for periodical revision. The higher scales, said Mr. RITCHIE RODGER, were a very bad bargaining instrument; they put the onus on the profession to prove that they are too high for a particular area, whereas the onus ought to be on the other side. The income-limits were personal limits, and four-figure families could slip through the net; moreover no account might be taken of subsidiary sources of income. Everyone admitted that a man with £300 a year might find it hard to produce £40–£50 for an operation, but there were now provident schemes to aid him. Dr. F. GRAY said that the contributory schemes were on trial, and it was always unwise to state maximum terms at the outset. Dr. H. S. HOWIE WOOD remarked that it is not until a contributory scheme has been in action for some time that one discovers the damage it does to private practice. Dr. A. BEAUCHAMP, on the other hand, thought that if the level is reduced too low it would be very bad for the contributory associations, which collected money for hospitals and did not all guarantee treatment. Did the B.M.A. want to put another nail in the coffin of the voluntary hospitals? Dr. PETER MACDONALD (chairman of the hospitals committee) said that if the association put forward too low a figure it would antagonise the hospitals. They were already conceding professional claims; for instance, the British Hospitals Contributory Schemes Association had agreed that services conveniently obtainable from private practitioners should not be given at hospital. Mr. RITCHIE RODGER, who sees the poor being squeezed out of hospitals by people with £300 a year, again urged the damaging effect of contributory schemes on general and consultant practice; but he failed to persuade the meeting to make his desired reduction of £50 in the scales submitted.

The next part of the draft hospital policy to come under fire was the following paragraph:—

"It is undesirable that private patients should be seen or treated at the outpatient department of a hospital unless such an arrangement is necessary in the interests of the patient. It is recognised that certain forms of treatment involve the use of costly apparatus most readily available at hospitals, and that team-work, so often essential, can be organised more easily at hospital. Where the treatment of private patients is in fact arranged at outpatient departments the following conditions should apply . . ."

Dr. S. WAND saw in this an insidious approach to toleration for the practice of medicine in hospitals. Exceptions were necessary; for example, deep X-ray therapy must be given in a suitable department, and there are places where a visiting specialist has no facilities for working except at a hospital. But the above paragraph left the door wide open to abuse. What was meant by the "interests" of the patient, by "most readily available" or by "can be organised more easily" or "team-work"? He saw a time coming when patients would be shepherded by contributory schemes to the outpatient departments, there to be seen by consultants whose fees would be assessed by the hospitals and contributory associations; he saw a time when consulting practice would be possible only under the control of hospitals, and only by those they see fit to appoint.

Dr. MACDONALD, in reply, accepted the words "in the *medical* interests of the patient"; but opposed Dr. Wand's proposed omission of the whole of the next sentence. More and more private work, he said, is going to be done at hospitals, and the sooner we recognise this the better for the patient, the better for the hospitals, and in the long run the better for the consultants. "Aha," replied Dr. WAND; "Dr. Macdonald has at last given himself away." There were two schools of thought about the desirability of private work being done at hospitals and the meeting must decide.—It decided in his favour, omitting the words from "It is recognised" down to "more easily at hospitals." It also added, on his proposal, a statement that "at the earliest possible moment the results of the investigations and suggested treatment should be communicated to the practitioner, to whom the patient should be returned for treatment as soon as practicable."

Brighton then produced the case of the member of a contributory scheme whose income, though £300 a year or less, is derived partly or wholly from investments. Money spent on the maintenance of health, said Dr. A. W. GARDNER, should be treated as capital expenditure. The small capitalist should be debarred from a contributory scheme, for an income of £250 at 3½ per cent. represented £7100; and even if the patient had to sell £100 of shares to pay his fees he would still have £7000 and lose only 1*s.* 2*d.* a week of his income. The non-admission of such people had been dismissed last year as impracticable, but it was in operation at Plymouth. Consultants, said Mr. MCCURRICH, will gladly give gratuitous service to the necessitous poor; but are people with £7000 necessitous poor? Dr. S. NOY SCOTT testified to the successful work of an "eligibility" committee at Plymouth since 1932. Dr. MACDONALD maintained that the very few people affected could not be controlled, and that contributory schemes would refuse to make inquisitions into their members' source of income. Dr. LEWIS thought it inequitable to ask a man to give up 1*s.* 2*d.* a week for the rest of his life, since one would never ask a workman to surrender permanently part of his wages. The meeting, however, agreed with Dr. GARDNER that this would not be a terrific burden for the sake of health, and the Brighton resolution was carried.

Monopoly of Pay-beds by Consultants

Dr. R. BOYD asked the representative body to view with concern the method by which auxiliary hospitals, and nursing-homes connected with hospitals, are being monopolised by specialists and consultants on the staff of hospitals, to the exclusion of general practitioners. The opening of homes attached to hospitals, he said, meant the closing of the private nursing-homes to which practitioners have sent their patients, and consultants were taking over practitioners' work. The London provident scheme offered payment to patients for nursing-home care—but only if they were under the care of a consultant.

Mr. ZACHARY COPE said it was only right that consultants giving two-thirds or more of their time to gratuitous work at a hospital should have a prior claim to the use of pay-beds attached to it. But the

general practitioner should be able to look after his patient after operation. (Dr. H. C. PURCER SMITH was surprised to hear that the surgeon's task ended when the operation was over.)

Dr. MACDONALD believed that the basic difficulty is that there are not enough hospital beds in the country to allow practitioners to have them. They must be kept for urgent cases or those requiring specialist attention. But he reminded Dr. BOYD that the B.M.A. policy already urges the advantages of the "open door" and speaks of provision for patients and doctors who have formerly used nursing-homes.

The Midwife as Anæsthetist

Hitherto the B.M.A. has maintained that only doctors and dentists should administer anæsthetics. The council now recommends that the midwife's right to give nitrous oxide and air during labour should be recognised, under certain conditions, one of which is "that the patient has within one month before her confinement been examined by a registered medical practitioner who has handed to the midwife a certificate in writing that the patient is in a fit condition for gas-and-air administration." A lively but complex discussion arose on this proposal, put forward by Dr. J. W. BONE as chairman of the general practice committee.

Dr. A. S. WIGFIELD, for East Herts, asked how a practitioner was to say that in a month's time a woman would be fit to have an anæsthetic from a midwife. If midwives could decide whether a woman needed medical aid during labour they could decide whether she could stand gas and oxygen.

Dame LOUISE MCILROY begged the meeting not to reject this one and only medical safeguard on a quibble about a day or a month. The profession was allowing midwifery to slip from its hands, and not making an effort, as it should, to keep control of antenatal care. Sir EWEN MACLEAN likewise advised that the doctor should keep in touch with the midwife's work; and so did Sir BECKWITH WHITEHOUSE, who did not much mind whether the examination is made one month, two months, or three months before labour, so long as it is made.

Two Scottish representatives, Dr. J. B. MILLER and Dr. E. K. MACKENZIE, explained that in the enlightened north anæsthetics for midwifery can be given only by registered practitioners. They were horrified by the discussion. "Good gracious me," said Dr. Mackenzie; "you English people, come to your senses!" But Sir EWEN MACLEAN was unmoved. In many areas south of the Border, he said, more than 70 per cent. of confinements were attended by midwives, and to discourage the use of anæsthesia by them would be a disservice to the public.

On the question whether midwives could safely use gas and air, Dr. J. C. A. NORMAN declared that true anæsthesia could be induced with a Minnitt apparatus, that anæsthetics (an art) could not be taught quickly, and that the presence of another midwife or student as laid down in the regulations made it all the more dangerous, because more gas could be given. Another speaker described gas as one of the most dangerous anæsthetics. Mr. A. M. A. MOORE, by contrast, considered the gas-and-air machine absolutely safe and simple; and Dame LOUISE MCILROY described it as safe as far as safety can go.

The more important argument, however, centred round the effect of the regulation and the effect of approving it. Dr. J. E. STACEY and many others wanted to stop midwives controlling the midwifery of the country. He thought that few medical men would certify that a woman would a month later be fit for an anæsthetic, and so in fact the anæsthetics would not be given unless (as was proper) a practitioner had charge of the case. Other speakers urged that if the B.M.A. held that every woman in childbirth should be under the care of a doctor—who was able to meet emergencies, anæsthetic and otherwise—it should say so. "Our job," said Dr. FORBES, "is to say what's ideal"; the B.M.A. decision would not stop midwives giving gas, but there was no reason why the B.M.A. should go out of its way to authorise it.

Dr. P. PHILLIPS almost won the meeting's approval for an amendment allowing midwives to administer analgesia rather than anæsthesia; but Dr. FORBES and Dr. O. C. CARTER successfully claimed that these cannot be differentiated. The meeting then declared itself opposed to the council's decision; and the B.M.A. policy will therefore make no mention at present of the giving of anæsthetics by midwives.

Information to Insurance Companies

Dr. A. M. JOHNSON, for Bury, questioned the propriety of supplying insurance companies with a "duration of illness" certificate after the death of a patient. The insurance company wanted to discover whether the person insured was healthy when he took out the policy; if not, it would dispute the relatives' claim. But if insurance companies took the risk of issuing policies without medical examination why should they be covered retrospectively if they backed a loser? Often patients in poor health were bullied into insurance. If certificates of this kind were refused the companies would see that there was a medical examination before policies were issued. This last argument was not accepted by all speakers and Dr. W. J. O'DONOVAN objected that it would be a professional impertinence to say that people shall be insured only "if we have a rake-off first."

Dr. FORBES said it was already possible to refuse a certificate, or to give information only with the relatives' consent. Sometimes the certificate was useful, since it enabled a claim to be settled favourably at once. On the other hand if a doctor refused to issue one the company might sub pœna him before an industrial-insurance court. Dr. JOHNSON believed that the companies would never dare to bring these cases into the light of day. Dr. J. CLAYRE thought that companies would find the expense of medical examinations offset by a gain in reputation, since great harm was done in the minds of lately bereaved families by contesting their confident claims. Dr. G. LAURENCE maintained that companies asked for certificates only to evade responsibilities undertaken with their eyes well open: Dr. N. E. WATERFIELD said that where that seemed to be so he always refused to certify and advised the relatives to stand on their rights. But often it saved much bother to give the certificate asked for. Dr. A. A. LEWIS refused to consider the bother, if the principle was wrong.

Dr. BONE incautiously said that this was an old story; it had often been argued before. Dr. JOHNSON replied that if it had been discussed for twenty years, there was all the more reason for getting something done. The meeting agreed, and said that "the action of medical practitioners in giving 'duration' certificates to insurance companies (or to the relatives of the deceased at the request of insurance companies) relating to the health of their patients before death should be discontinued."

N.O.T.B.

The council has approved a proposal to convert the National Ophthalmic Treatment Board into a private company limited by guarantee. But the steps proposed "to regularise the position of practitioners associated with the work of the board" have been criticised (see *Lancet*, July 22, 1939, p. 227).

Dr. A. ESTCOURT-OSWALD said that ophthalmic surgeons, who would have to accept the terms or lose their work under the National Ophthalmic Treatment Board, had not had time enough to consider the scheme finally announced on July 14. Dr. R. H. BALFOUR BARROW complained that they had to agree to rules that might be varied from time to time by the B.M.A. and to penalties not yet stated. Dr. STEVENSON explained that disciplinary control would rest with the association's ophthalmic group committee—a purely professional body whose proceedings had in turn to be reviewed by the council; and Dr. H. CAIGER condemned the objectors as "agin the government." Dr. WAND, however, supported the plea for delay, and though Dr. MACDONALD said it was urgently necessary to complete the arrangements in order to secure legal protection for the letters N.O.T.B., the representative body sympathised with Dr. Estcourt-Oswald's objection to signing a document she does not find explicit. The council was asked to reconsider it.

First-aid in Industry

Dr. WAND spoke of the loss to industry from injuries—estimated at £50,000,000 a year. Those giving first-aid were insufficiently trained, and too much treatment was done by them, and expected of them by employers. Industry had never had a lead from the profession. He presented an appendix to the council's report—since reprinted as a booklet "First-aid in Industry"—which, he said, gave such a lead. Subsequently a book of training was to be issued, and leaflets on poisoning, applicable to particular trades. He hoped that the association's message to industry might save both money and misery.

Pasteurisation

Dr. WARD, for Torquay, urged the council to persuade members to do their best to convince the public of the value of effective pasteurisation, "which, while preserving the nutritive qualities of the milk, affords a guarantee against the risk of tuberculosis and other milk-borne infections." On a suggestion being made that it affords only a "reasonable degree" of safety Sir KAYE LE FLEMING said there was now no shadow of doubt that it gives complete protection and in no way diminishes the value or (necessarily) the palatability of milk. "We have with us," he said, "the Ministry of Health and the Board of Agriculture; we have against us an ill-informed public opinion, an ill-informed House of Commons, and an ill-informed agricultural industry." The ministries said that they could not legislate in advance of public opinion.

Dr. R. MAULE HORNE declared that the new Milk Bill, without mention of pasteurisation, meant that more mothers and more babies will drink more unsafe milk. The cause of safe milk had had a set-back, and effort must be redoubled. Dr. W. S. MACDONALD said that the B.M.A.'s advocacy of pasteurisation had aroused enmity among farmers and small distributors, some of whom were trying hard to clean up their milk; and to produce clean milk was better than to heat dirty milk. Dr. A. W. GARDNER also preferred raw milk and said that it does not cause pulmonary tuberculosis. Dr. P. W. EDWARDS regretted that many pasteurising firms, caring more for money than milk, do their work badly and lead their customers into a fool's paradise. In Scotland, he added, 4 per cent. of pulmonary tuberculosis is due to bovine infections and in his own district 2·2 per cent. These percentages represented very large totals. Dr. C. O. STALLYBRASS also pleaded for pasteurisation and Dr. A. A. EAGGER related how a diet of milk from tuberculin-tested cows had given him undulant fever.

Torquay's motion was passed with only 5 dissentients.

Diphtheria Immunisation

The City of London moved that in view of the small proportion of children immunised against diphtheria and the danger of the disease spreading among those evacuated in war-time, steps should be taken to press the public to accept inoculation. Dr. J. FETTES, proposing, said that only 5·6 per cent. of London children had been immunised, and assuming that 20 per cent. are naturally immune, this meant that three-quarters of the child population is susceptible. In Aberdeen county, he was informed, 75 per cent. of parents consented to immunisation and in Aberdeen city over 50 per cent. But in an emergency Aberdeen would have to receive 32,000 child evacuees, and before inoculating any of them written consent from the parents or guardians would have to be obtained. He deplored the apathy of practitioners towards this wholly preventable disease; they often did not care to give two injections at 2*s*. 6*d*. each. Dr. C. O. S. BROOKE said this apathy was harder to overcome than opposition, but the B.M.A. could overcome it if its members showed they are convinced of the necessity and safety of prophylaxis. Dr. A. MCCARTHY pointed out that the best publicity is that given by the individual doctor attending his patients. Practitioners should offer their services for this purpose to the medical officers of health. Dr. R. A. WILSON described the measures now adopted by Guernsey, where next week every child between two and ten years old will have been immunised. Dr. MELVIN said that the number of deaths from diphtheria in England and Wales is equal to the number of deaths of women in childbirth. All the deaths from diphtheria could be prevented for a fraction of the money spent on reducing maternal mortality.

After Professor PICKEN, as chairman of the public-health committee, had expressed his pleasure that such an initiative, on a purely preventive issue, should come from general practitioners, the City's motion was carried without dissent. A further motion, suggesting that compulsory immunisation of children should be recommended to the Government, was withdrawn.

A Woman for the G.M.C.?

Two direct representatives are to be elected this autumn to the General Medical Council, and Dr. WARD, for Torquay, besought the meeting to say that one of the nominees of the association should be a woman. Dr. STEVENSON pointed out that no woman is likely to be appointed from any other source, and Dr. T. CRAIG believed that it would be an asset to the G.M.C. to have one. But every other speaker, except Dr. A. A. LEWIS, was against the proposal.

Dr. F. A. ROPER said that there was at present no bar; any electing body could choose a woman. Indeed the late Dr. Christine Murrell had been an outstanding member of the council; though she had

not lived to take her seat. If a woman were elected as B.M.A. nominee for England and Wales the women doctors of Scotland and Ireland might have a grievance. No minority should be given exclusive representation; it would be as reasonable to ask it for doctors with red hair. Dr. WATERFIELD held that women want equality, not privileges, and the only woman speaker, Miss BEATRICE TURNER, agreed with him, saying that women should be appointed on their merits, not as weaker vessels. If a woman was wanted, said Dr. S. A. FORBES, the machinery for her election was fully available.

So far as the association is concerned this machinery will continue to work as hitherto; for the motion was rejected.

Officers of the Association

Sir BECKWITH WHITEHOUSE, F.R.C.O.G., was elected president for 1940–41, to take office when the association visits Birmingham next year. Sir KAYE LE FLEMING, chairman of council, was elected a vice-president, and on the retirement of Mr. N. Bishop Harman from the office of treasurer, after fifteen years' service, Dr. J. W. BONE was elected treasurer in his stead. Dr. H. G. DAIN and Dr. PETER MACDONALD remain chairman and vice-chairman of the representative body.

Dr. Dain's most sensational action at last week-end's meeting was to take a roll-call of representatives. About the middle of Saturday morning, the number present had fallen well below the quorum of 50 per cent.; and, *horribile dictu*, not every absentee had asked personal leave of absence as standing orders require.

(To be continued)

MENTAL HEALTH

SUGGESTED MERGER OF VOLUNTARY AGENCIES

THE formation of the Feversham committee, whose report * has just been issued, was the outcome of a widespread movement towards the coördination of the voluntary mental-health services. The Board of Control, as the central statutory authority for mental health, have taken an important part in coördinating the various branches of the official mental-health services and in bringing together the voluntary organisations associated with these services. The report of the Feversham committee quotes an extract from the annual report of the Board of Control (1935) which states their attitude in clear and forceful terms:—

"The Board have noted with pleasure the growing movement in favour of combining, whether by complete amalgamation or by federation with a central body, all the various voluntary agencies interested in different aspects of mental health. The want of unified direction and a comprehensive central body able to view the problem as a whole has made the mental hygiene movement relatively ineffective in this country. Without some measure of union, or at least of coördination, no effective appeal can be made to the public for financial support and, an even graver source of weakness, no real advance can be made in educating public opinion so that the needs and possibilities of the work may be more fully realised. The development of any health service depends upon close coöperation between voluntary effort and governmental or municipal activities. Legislation in advance of public opinion is almost always inoperative, nor can local authorities be criticised for failing to do more than their constituents want them to do. There are limits to the extent to which central departments can influence or, indeed, ought to attempt to influence public opinion. It is therefore all the more important that the present multiplicity of voluntary organisations should be coördinated if the importance of mental hygiene is to be adequately realised."

This statement of the Board of Control is at once a challenge and an encouragement to the voluntary mental-health services. The Feversham committee have taken up the challenge and produced a comprehensive report showing both the defects of the existing voluntary services—lack of coördination on the one hand, and overlapping and waste of effort on the other—and the methods by which these defects should be remedied. In the preparation of the report the committee have taken evidence from practically every source which might be expected to afford relevant information. Questionnaires were sent to all government departments dealing with mental health from any angle, to the councils of all administrative counties and county boroughs, and to all voluntary mental-health societies and clinics. Besides, special information was sought from individuals selected either because of their specific knowledge of mental-health work or for their general experience of public and social affairs. The replies to these questionnaires were carefully classified by the committee, and the report is the final outcome of the evidence which was studied and sifted.

PRESENT STATE OF MENTAL-HEALTH SERVICES

The Feversham report falls naturally into three main sections. The first deals with the mental-health services, both statutory and voluntary, as they are today. It shows how these services grew up, each in response to a particular need, and how lack of coördination was inherent in this haphazard form of development. The statutory position of mental disorder, mental defect, and delinquency is fully discussed, and special reference is made to defects in the law which have had an adverse effect on the growth of the voluntary services. In the realm of mental deficiency, for example, the stigma of certification before appropriate education can be provided for a child is once more condemned, and the anomalies of notification of defective children to the statutory authority are clearly brought out:—

"There can be no doubt that the object of notification is to secure proper supervision for a child who is socially defective. Yet the law is so framed that (with minor exceptions) . . . only those children who have been in attendance at special schools or classes can be notified to the mental deficiency authority. This restriction is in our opinion indefensible. It is the greatest single obstacle to successful community care of defectives. The replies which this committee have received show that the overwhelming majority of mental welfare associations lament the fact that the very children who are in greatest need of supervision after they leave school are denied this benefit *because they have also been denied the opportunity of receiving instruction in special schools or classes.*"

The report also shows that the statutory powers under the Education Acts are too limited to encourage the development of modern services for the child. The committee feel that the time has come for granting frank specific powers of contribution by local-education authorities to voluntary services such as child guidance and the institutional care of difficult children.

* The Feversham Committee (47, Whitehall, London, S.W.1). The Voluntary Mental Health Services, 2*s.* 6*d.*

MENTAL-HEALTH CLINICS

In the second main section of their report the committee deal critically with the evidence which they have received. A considerable mass of information has been accumulated to show that the establishment of mental-health clinics throughout the country is a great and urgent need. It is clear, however, that the present position is far from satisfactory. Some authorities are paying only lip service to the provisions of the Mental Treatment Act, 1930. Some of the clinics which have been organised meet only once a month and do not provide even the rudiments of an efficient service; some are so overcrowded that individual attention is impossible; and others are either understaffed or attended by inadequately trained personnel. The committee take the view that the normal situation for a diagnostic outpatient clinic is the general hospital, except in the great cities where a clinic, established for mental-health purposes, can within its own bounds provide all facilities for physical as well as mental investigation. The minimal requirements of an efficient clinic are discussed, and great emphasis is laid upon the value of fully trained psychiatric social workers. Although it is agreed that, in general, the most suitable location of an outpatient clinic is in association with a general hospital, it is admitted that few such clinics in fact provide a sufficient number of separate rooms for effective work, and that the accommodation is often otherwise unsuitable—"dismal, ill-decorated rooms, uncomfortable furnishing, and a general lack of attention to those little, delicate, homely features of decoration which make all the difference between the cold atmosphere of an institution and the warm, attractive surroundings of a room which inspires confidence and a sense of peace."

The scope and limitations of the mental-health clinic are examined, and the view is expressed that the mental-health service in the average area should be a single organisation. The clinic should therefore deal with patients of all ages who are likely to benefit by psychiatric treatment. Mental defectives as such would be excluded, except in so far as they presented psychoneurotic conditions or problems of conduct and social adjustment susceptible of treatment.

INSTITUTIONAL TREATMENT

In the chapter relating to mental-hospital treatment the committee point out that in many areas the provision for early cases is scanty, especially for patients suffering from recoverable forms of mental disorder who are not willing to go as voluntary patients to mental hospitals and yet would be willing to undergo treatment if it were available elsewhere. The evidence of existing conditions is summed up as follows:—

(1) A steadily increasing use should be made of the facilities for voluntary treatment provided at the more progressive mental hospitals.

(2) Very many local authorities have not yet made full use of their powers to admit voluntary patients.

(3) There is lack of coöperation between the various agencies providing inpatient accommodation for mental cases—mental-hospital authorities, public-assistance authorities, and voluntary bodies.

(4) The need for special accommodation for early and transient non-certifiable cases is not fully appreciated.

The committee urge that voluntary effort could do much to meet this need if coöperation could be secured. The remedy which the committee suggest is resolved into two propositions: (*a*) where one of the great medical teaching centres is within reach, a special hospital for early mental and functional nervous disorders should be established in close association with the teaching school; and (*b*) where no teaching centre is available, a special block for early cases should be established in close connexion with or at the general hospital serving the area.

MENTAL DEFICIENCY

In the chapter dealing with mental deficiency the most urgent problem in mental health arises from lack of coöperation within the statutory area itself. At least four committees of a local authority may have mental-health functions, and in many areas little progress has been made towards coöperation. The committee feel that one of the most important contributions which voluntary associations can make to the community care of defectives is to link together all the agencies, both statutory and voluntary, in a single enterprise so that no part of the field is left uncovered.

MENTAL HEALTH OF CHILDREN

In an interesting chapter devoted to the mental health of children it is suggested that prevention, in the sense of promoting positive health, is the most important aspect of child guidance. Child guidance should not stand alone; it operates most effectively through the existing agencies for child welfare and education. The great majority of the difficulties and maladjustments of childhood can and should be dealt with inside the ordinary educational system, especially through coöperation between home and school. Voluntary effort has two functions in relation to the mental health of children: preliminary organisation to demonstrate throughout the country the need for a child-guidance service; and assistance even in the fully established clinic to the trained personnel to provide the right atmosphere of friendly informality.

EDUCATION OF THE PUBLIC

Publicity has come to stay, as a feature of modern life; and propaganda has great powers for good as well as for evil. The report of the Feversham committee lays a just emphasis on the importance of public education in mental health and offers constructive suggestions on the best means of making it effective. At the same time a salutary warning is given against the risks of unskilled presentation of mental-health problems, especially that which lays emphasis on the pathological rather than the normal. The aims of public education are summarised thus:—

(1) To foster a healthy attitude towards mental illness, regarding it as similar in all essentials to physical disease, with a definite pathology and with genuine possibilities of prevention, alleviation, or cure.

(2) To educate the public in the principles of normal psychology and mental hygiene, especially with regard to the child.

(3) To explain and to spread knowledge of the functions of the mental-health services, including mental hospitals, clinics for early disorders, and facilities for the promotion of mental health in children.

ORGANISATION OF MENTAL-HEALTH SERVICES

After setting out in summary form their principal recommendations, the committee proceed to discuss, in the third section of the report, what is in a sense the most immediate problem—the internal organisation of the voluntary mental-health services. In their view, lack of coördination exists to such an extent that the services do not give full value in return for

the time, money, and effort spent upon them. The evidence proves the committee's case beyond doubt and shows that the earlier methods adopted to secure coöperation between the various voluntary agencies have all failed in their object, because they have not achieved unity of effort. The only policy which has a claim to far-sighted statesmanship is complete amalgamation, and the committee's scheme not only promotes amalgamation but also shows in a thorough practical way how it can be carried out. It is recommended that a new central voluntary body be set up for England and Wales to be called the National Council for Mental Health. This body is to be the product of fusion between the existing central voluntary associations directly concerned with the promotion of mental health: the Central Association for Mental Welfare, the Child Guidance Council, the Mental After-Care Association, and the National Council for Mental Hygiene. Agreement has already been reached in principle between three of the associations; it appears that the Mental After-Care Association has not yet seen its way to coöperate.

The aims of the new council are comprehensive; their chief object is to create in the public mind a new outlook on mental health and a new understanding of its meaning. The creation of a single central voluntary association should go far to stimulate the interest of local authorities by organising training and establishing recognised standards of competence. Coördinated voluntary effort is also greatly needed for the promotion of research and the collection of authoritative records. It is to be hoped that the new council will be successful in awakening greater public interest and active support in the much neglected field of mental health in this country.

BEIT MEMORIAL FELLOWSHIPS FOR MEDICAL RESEARCH

A MEETING of the trustees of the Beit Memorial Fellowships for Medical Research was held on July 19. They received with regret the resignation from the advisory board of Sir Gowland Hopkins, O.M., who throughout the long period of 25 years had given wise counsel at the meetings of the board and in his biochemical department at Cambridge had directed the research studies of perhaps a greater proportion of those elected to Beit fellowships than any other head of a department has done. They also regretted the resignation of Sir Patrick Laidlaw, F.R.S., after eight years of keenly attentive work. These vacancies were filled by the appointment to the board of Dr. R. A. Peters, F.R.S., Whitley professor of biochemistry in the University of Oxford, and of Dr. Paul Fildes, F.R.S., bacteriologist on the scientific staff of the Medical Research Council. It was reported that C. H. O'Donoghue (fellow 1912–13) had been appointed to the professorship of zoology in the University of Reading; J. T. Irving (1926–28) to the professorship of physiology in the University of Cape Town; G. F. Marrian (1927–30) to the professorship of chemistry in relation to medicine in the University of Edinburgh; F. H. Smirk (1930–34) to the professorship of medicine in the University of Otago; and H. P. Himsworth (1932–35) to the professorship of medicine in the University of London at University College Hospital.

It was in 1910 that the first Beit fellow, now Sir Thomas Lewis, F.R.S., was elected, and last year's election in 1938 brought the total of all fellows elected to exactly 200. Women are eligible and have been elected from 1910 onwards, their total being 30 out of the 200. Of the 170 men, 6 have been elected to the fellowship of the Royal Society, and no less than 34 have already been appointed to university professorships, of which 5 were in physiology, 5 in pharmacology, 5 in medicine and 9 in chemistry or biochemistry. The Dominions overseas hold 8 of these past Beit fellows as present professors. None of the women have yet been promoted to university professorships, though at least 6 of them are doing work of much distinction and one has for some years been director of an important research laboratory. The opportunities for a woman to obtain a university chair in scientific subjects are still restricted. Though the fellows have come from all parts of the British Empire and have subsequently gone to laboratory posts all over the world, in their choice of a place of research during their fellowships they have tended to group themselves at three main centres. Out of the total 200 the laboratories of the University of Cambridge have held 55 fellows, and 29 of these were personally directed by Sir Gowland Hopkins in the great biochemical school that he developed in the Dunn Laboratories immediately after their opening in 1925. University College and University College Hospital in London together have provided opportunities for the work of 39 fellows. The Lister Institute of Preventive Medicine has accepted 35. A total of nearly £190,000 has been disbursed to fellows since 1910.

The following elections to fellowships were made:—

FOURTH-YEAR FELLOWSHIPS

ISAAC BERENBLUM, M.D., M.Sc. Lond. To continue his work on the production of cancer by skin irritants, and to study the metabolism of living cells in tissue culture. At the school of pathology, University of Oxford.

THOMAS ARTHUR HOWARD MUNRO, M.B. Edin., F.R.C.P.E. To continue his studies of the rôle of inheritance in mental disorders. At the Royal Eastern Counties Institution, Colchester.

ALBERT NEUBERGER, M.D. Wurzburg, Ph.D. Lond. To extend his work on the chemistry of amino sugars in elucidation of the structure of natural compounds. At the department of pathological chemistry, University College Hospital medical school, University of London.

RICHARD JULIUS PUMPHREY, Ph.D. Camb. To continue his studies on the nervous system of cephalopods and on the auditory processes in insects. At the zoological laboratory, University of Cambridge, and the laboratory of the Marine Biological Association, Plymouth.

JUNIOR FELLOWSHIPS

VERNON HOLLIS BOOTH, Ph.D. Camb. George Henry Lewes student, 1935–38. Ramsay memorial fellow for chemical research, 1938–39. Proposed research: (1) the analysis of internal constituents of bacteria with a wet-crushing mill; (2) carbonic anhydrase. At the physiological laboratory, University of Cambridge.

ERIC GEORGE LAPTHORNE BYWATERS, M.B. Lond., M.R.C.P. Assistant clinical pathologist, Middlesex Hospital, 1935–36; Rockefeller research fellow in medicine, 1937–38. Proposed research: rheumatoid arthritis. At the British Postgraduate Medical School, University of London.

WILFRED INGRAM CARD, M.D. Lond., M.R.C.P. Since 1935 medical registrar and tutor to the medical unit, St. Thomas's Hospital. Louis Jenner research fellow at the hospital, 1938 and 1939. Proposed research: the inhibition of gastric motility and secretion by experimental studies on man. At the medical unit laboratories and Sherrington school of physiology, St. Thomas's Hospital medical school, University of London.

HANS HELLER, Ph.D. Prague, M.B. Camb. Assistant to professor of pharmacology, University of Vienna,

1929–34. Proposed research: the antidiuretic principle of postpituitary extract. At the medical unit laboratories, University College Hospital medical school, University of London.

MAXWELL SHAW JONES, M.D. Edin., D.P.M. Walter Smith Kay research fellow in psychiatry, University of Edinburgh, 1934–36. Commonwealth Fund fellow, 1936–38. Proposed research: insulin treatment of schizophrenic mental states. At the Maudsley Hospital, University of London.

BARNETT LEVIN, Ph.D. Lond. Pedler research scholar, Institute of Chemistry, 1931–32. Since 1932 lecturer in chemistry at Guy's Hospital medical school, University of London. Proposed research: the effect of spatial configuration of antigens on immunological reactions. At the clinical chemical laboratories of the London Hospital, University of London.

IAN MACKENZIE, M.B. Edin., F.R.C.S.E. Vans Dunlop scholar in bacteriology, University of Edinburgh, 1933. Rockefeller research fellow, 1938. Proposed research: immunological investigations on constituents of tumours. At the department of surgical research, University of Edinburgh.

ALEXANDER FRANCIS RAWDON-SMITH, Ph.D. Camb. Senior student of the 1851 exhibition, 1936–37 and 1938–39. Rockefeller Foundation fellow, 1938. Proposed research: congenital deafness. At the physiological laboratory, University of Cambridge.

BASIL ROLAND RECORD, Ph.D. Birm. Department of Scientific and Industrial Research award, 1937–39. Proposed research: the specific soluble substance found in the tissues in acute vaccinal infection. At the Lister Institute of Preventive Medicine, University of London.

All correspondence of fellows and candidates should be addressed to Prof. T. R. Elliott, F.R.S., hon. secretary, Beit memorial fellowships, University College Hospital medical school, University Street, London, W.C.1.

AUSTRALASIA

(FROM OUR OWN CORRESPONDENT)

CHAIR OF MEDICINE AT DUNEDIN

Prof. F. H. Smirk of Cairo has been appointed to the chair of medicine at the national medical school, University of Otago. At present professor of pharmacology in the Egyptian University, and physician in the postgraduate section of the University Hospital, Prof. Smirk was chosen from a large field. Since graduation at Manchester in 1925 he has stuck closely to practical scientific medicine and research, working at Manchester, Vienna, University College Hospital, and Cairo. His chief interest in recent years has been high blood-pressure, but in the past he has worked at problems connected with heart and kidney.

Dr. D. W. Carmalt Jones and Dr. F. Fitchett, who are retiring at the age-limit, have shared the responsibilities of the chair of medicine for twenty years. They had endeared themselves to their students and will carry universal goodwill with them into retirement. Their appointments were part-time ones. The new appointment is a full-time one, carrying a higher salary than most other academic appointments in New Zealand.

An urgent need in the Dominion is the development and better organisation of clinical teaching in the other three large centres—Auckland, Wellington and Christchurch—where students may go for their sixth, solely clinical, undergraduate year. Postgraduate teaching also awaits development.

MEDICAL EDUCATION

As a fitting conclusion to the recent postgraduate course conducted in Brisbane, Sir Alan Newton, senior surgeon at the Royal Melbourne Hospital, delivered the Bancroft oration on "The Making of Medical Men." He said that the number of medical students in Australia has greatly increased in the last few years, and in an attempt to discover the explanation an analysis has been made of reasons given by a group of students for choosing medicine as a career. In 12 per cent. of these parents insisted, 7 per cent. found it the least objectionable of all the academic courses, 7 per cent. took it up as an auxiliary hobby (such as being a medical missionary), 7 per cent. followed in their fathers' footsteps, for 10 per cent. it had been an ambition since childhood, and for 31 per cent. it was due entirely to chance. With these figures in mind the natural inaptitude of a large percentage of students is not surprising, and Sir Alan suggested that some method of selection and elimination of the unfit should be instituted, based on the first year's work at the university. In this way some control could be exercised over the quantity and quality of men entering the medical profession.

In order to relieve the increasing tendency to overcrowd the curriculum he proposed that first-year subjects should be delegated to schools and taught with English and history to form a cultural background, leaving the first year at the university for anatomy and physiology; that biology should also be taught in schools, importance being attached to principles rather than structural detail; that botany should be eliminated seeing that pharmaceutical preparations are now mostly in standardised form; that psychology, radiological diagnosis and pharmacology should also be omitted (this last being merged into therapeutics); that lectures on anæsthesia should be replaced by demonstrations; and that the time spent in studying the physiology of the special senses should be reduced. Special subjects would then be taught after graduation. On the other hand, he suggested that every medical school should have attached to it a medico-social clinic with provision for students to visit the homes of patients so that they might understand their social and economic background and its relation to their physical condition.

REFUGEE DOCTORS

In all the Australian states refugee doctors are now debarred from immediate registration as medical practitioners even though their qualifications and experience may be beyond all reasonable doubt. In most cases applicants are required to graduate through an Australian medical school. These restrictions are designed, of course, not only to ensure that a foreign doctor is fitted to practise his profession in Australia but also to protect those already in practice from undesirable competition, and to safeguard the prospects of the younger men and women who are now qualifying. At the same time it seems foolish for Australia to reject the medical knowledge, skill and experience that are being brought in by refugees from Europe, especially as there is always a difficulty in supplying the medical requirements of remote country districts. Legislation is under consideration in several states by which a system of regional registration would be instituted for foreign doctors who have the necessary qualifications. This regional registration will allow a foreigner to practise only in a specified area. It is proposed that certificates should be issued for one year only, subject to renewal at the end of that time. After five years a foreign doctor would be entitled to seek registration among the general body of medical practitioners in the state.

The British Medical Association maintains that,

since the shortage of medical practitioners in country areas is caused not so much by there being too few doctors as by the inadequate remuneration, these districts are as little likely to attract refugees as Australians. The local branches of the association contend that the proposed subsidy of £500 per annum is quite insufficient for any practitioner whether of foreign or British training, and that it should be increased to £1000. The association feels confident that there would then be a good supply of British practitioners for the country districts, but if not it would not object to foreign graduates filling the positions.

EXTENSION OF MATERNITY SERVICES

The institution by the health department of New South Wales of better medical facilities for mothers during the actual natal period opens up a new development in the state's maternity services. Extended antenatal and postnatal facilities have been available for some time. The present scheme will cover the vital intermediate period. It provides that the services of accredited obstetric consultants will be made available in any abnormal maternity case, irrespective of the financial circumstances of the patient; that a mobile blood-transfusion unit attached to one of the metropolitan hospitals will be established; that blood-donors will be paid at the rate of £5 per pint of blood; and that the whole of this cost, together with that of bringing in specialists, will be borne by the department of public health. It also provides that every maternal death shall be reviewed within a reasonable time by a special committee, with a view to discovering any loopholes in the scheme and reducing still further the maternal mortality-rate.

UNITED STATES OF AMERICA

(FROM OUR OWN CORRESPONDENT)

MEDICAL CARE AND THE STATE

THE responsibility of the state for the provision of medical care was discussed at the annual conference of health officers and public-health nurses of New York state held in Saratoga Springs on June 27 and 28. Dr. E. S. Godfrey, commissioner of health, said that the impression he gained at the National Health Conference was that there is a vast social demand for a change in the method of payment and method of delivery of medical care, and that this demand will not be diverted by a distortion of factual material. He did not favour the Wagner Bill in its present form but not for the 22 so-called reasons promulgated by the American Medical Association. He believed that there should be a single federal authority, that the present procedure for obtaining grants should be simplified and that except for very broad purposes the appropriations made from the federal treasury to the states should be aggregated and that their segregation for specific purposes should be in the discretion of the administrative officer rather than in that of the Congress. In conclusion, he remarked:—

"I have no desire to add fuel to a fire that is producing so much heat and so little light, but I do wish to voice at this time a resentment to the implication that men and women in public service are any less worthy, in education, in capacity, in attention, in interest, in devotion to duty, than those who are in what we call 'private life.' I resent the imputation that a salary stultifies, that we must receive a fee for every service rendered or else perform it grudgingly or inefficiently or both. This is no more true of the medical and the nursing professions than it is of those who are by established custom paid for their services in this way. Granted a satisfactory standard of living, the remaining satisfactions are not those derived from monetary income, but from an appreciation of work well done."

Assemblyman Lee B. Mailler pointed out that although the largest volume of medical services in New York state is arranged on an individual basis between doctor and patient the state does spend between 100 and 120 million dollars of its funds for the provision of medical care. He drew a distinction between the availability of medical resources and their utilisation. Services are available in a varying degree because of geographical or other physical barriers. They are utilised to a varying extent because of the more imponderable—but none the less real—economic, psychological or social barriers. Nation-wide surveys have shown that 4 out of every 10 people who are sick receive no medical care either because they do not ask for it, do not know where they can get it, do not know that they need it, or think that they cannot afford it.

SCOTLAND

(FROM OUR OWN CORRESPONDENT)

DEATH OF PROFESSOR YOUNG

ON the occasion of his retirement from the regius chair of surgery in the University of Glasgow and from his position as senior surgeon in the Western Infirmary Prof. Archibald Young was last week presented with his portrait painted by James Gunn. His death on Sunday has only made the occasion more memorable. Sir George Mitchell, chairman of the Western Infirmary, sketched Professor Young's distinguished career and mentioned that he had been attached to the Western Infirmary for 37 years. Professor Young recalled the many changes which had taken place in the Western in his time. He remembered the time when members of the staff were hardly on speaking terms with each other. Now the work of the hospital was better and the benefit to the patients greater for the improved liaison between members of the staff. Healthy rivalry had also replaced the old sharp competition between the hospitals of the city. He asked the principal, Sir Hector Hetherington, to accept the portrait on behalf of the university. Sir Hector, in accepting, spoke of the successful manner in which Professor Young had upheld the traditions of the chair of Macleod and Macewan. He was a man of strong individuality and—something all Scots respected—a bonnie fighter. He imagined that there was hardly anyone present who had not at some time been Professor Young's opponent, but there was no-one with whom Professor Young had been brought in contact who had ever been his enemy. He was a man of great kindness, and nothing had been more characteristic of him than his zeal for the welfare of his students.

RETIREMENT OF COLONEL GREIG

Lieut.-Colonel E. D. W. Greig, C.I.E., F.R.C.P.E., is retiring from the lectureship in diseases of tropical countries in Edinburgh University. For many years he has been a well-known figure in Edinburgh medical circles and at the Royal Infirmary, and his cheerful and good-natured presence will be missed. The university, however, is to be further indebted to him, for it was announced at the last meeting of the

court that Colonel Greig has given the university his collection of microscopic slides, lantern slides, photographs, and journals and books dealing with tropical medicine and hygiene.

MEMORIAL LIBRARY TO SIR DAVID WILKIE

In an address at the opening of the Wilkie Memorial Library in the Edinburgh University Settlement, High School Yards, Edinburgh, Dr. F. H. A. Marshall, F.R.S., said he had known Sir David Wilkie as a student. There was something about him which endeared him to all. He had a capacity for enthusiasm, a keenness and a joy in life. He was essentially modest and almost shy, and these were characteristics which added to his charm. Dr. Marshall said he could speak of Wilkie's usefulness as a member of the Medical Research Council, and he paid tribute to the great and untiring interest which Sir David and Lady Wilkie had taken in the well-being and work of the settlement. It is in recognition of this that funds have been raised for the improvement of the library and its facilities. After the cost of this work has been met a sum of money will be available for further additions to the shelves.

IRELAND

(FROM OUR OWN CORRESPONDENT)

ACTUARIAL INVESTIGATION OF NATIONAL HEALTH INSURANCE

ABSTRACTS of the report of a special actuarial investigation that has been made into national health insurance in Ireland were published last week. The investigation is distinct from the usual quinquennial valuations, and is intended to help to a judgment of the result that amalgamation of the approved societies has had on the working of national health insurance. It deals, therefore, with the first three years—1935–37—following the establishment of the unified National Health Insurance Society. The investigation has been carried out by Mr. G. S. W. Epps, of the general actuary's department, London. He has discovered some remarkable differences between the incidence of claims for benefit in Ireland and in Great Britain.

"It will be noted," says Mr. Epps, "that the disablement benefit claims in all three categories—men, spinsters and widows, and married women—range from twice to two and a half times the respective standards of the British valuation basis. . . . Whereas the proportion of men claiming sickness benefit in Eire is only about one-half of that in Great Britain, the average duration of such claims is about 50 per cent. longer. In the case of disablement benefit, however, not only is the duration of claim about 15 per cent. longer, but the proportion claiming the benefit is more than one and a half times as many. Similar features appear in the case of women. As regards sickness benefit, the proportion of all classes is roughly three-quarters of the British proportion, but the average duration is 50 per cent. greater. In regard to disablement, the numbers of spinsters and widows claiming range from one and a half times to double the British figure, but the average duration is not much longer; in the case of married women, however, not only is the proportion claiming from two to three times the British proportion, but also the duration of claim is from 15 to 30 per cent., or more, longer, the disparities being most marked at ages under about thirty-five."

The report notes that in Ireland medical attendance for insured persons does not form part of the national health insurance scheme, provision being made only for the certification of members who are incapacitated for work. Whatever effect this absence of provision for medical treatment may have on the health of the members, it is likely to lead to some increase in the number of claims and still more to the undue prolongation of claims. The suggestion is made also that the relatively large proportion of young persons who emigrate from Ireland may be a factor which tends to increase the proportion of incapacity among those who remain, as those who emigrate are probably drawn from the healthier section of the population.

It is clear that if the claims made on the society accurately reflect the amount of incapacity in the insured population, then the provision for benefit in the financial basis of the system is inadequate. If the finances of the scheme are to be readjusted, without abandonment of the principles which have hitherto governed national health insurance in both Great Britain and Ireland, then either there must be an increase in the rates of contribution or a decrease in the rates of benefit, or both. Before arriving at such a conclusion, however, the actuary remarks:—

"It would appear to be necessary, by appropriate investigations into genuineness of claims, frequency of claims, certification of continued incapacity, supervision of claims by the society, &c., to determine whether the present experience must be accepted as normal and adopted in the modification of the financial basis governing the future operations of the society."

For several years past those interested in questions of health have been pressing on the government of Ireland the need for a thorough revision of the national health insurance system, and the establishment in connexion therewith of a system of medical treatment. There are inherent difficulties in such a development arising from the necessity for adjustment of a system of medical treatment of insured members with the present system of dispensary treatment for the poor. There is also, from the point of view of the government, the knowledge that any development will give cause for an increase in the state grant, and this difficulty is not diminishing. Again, there are some critics who hold that a system of health insurance directly administered by the state would be both more efficient and more economical than the present system of administration by a society under state supervision. How much and in what direction the actuary's report will influence future development is a matter of conjecture.

BUDAPEST

(FROM OUR OWN CORRESPONDENT)

MUD-FEVER

Dr. Sulyok, leader of the national public-health institute in Székesfehérvár, investigated some time ago the origin, course and treatment of mud-fever. This disease was epidemic in some parts of Germany in 1926–27, and chiefly attacked labourers working barefoot in meadows. Typically, it has a sudden onset, with shivering or shuddering, great prostration, tormenting headache and photophobia; to these symptoms are added loss of appetite, nausea and tenderness of the abdomen on pressure. Now and then rashes appear, sometimes similar to those of morbilli or scarlatina, or, more rarely, rose spots as in typhoid. Fever usually rises to 104° F. and lasts for days. The cause of the condition is the *Leptospira grippotyphosa*. When an epidemic was raging in

Germany, the disease occurred sporadically also in Russia. Last year the disease reached Hungary, and at the Székesfehérvár institute several such typhoid-suspicious cases were reported, which gave negative results to all laboratory tests. Although the whole course of the disease very much resembled the initial stage of abdominal typhus, yet all manifestations suddenly came to an end after the lapse of a week. It soon became clear that this was mud-fever. In one village, of 22 men making hay in a wet meadow, 7 fell ill with symptoms pointing to incipient abdominal typhus. Their abrupt recovery after 8 to 10 days suggested to the parish doctor the possibility of mud-fever. At the same time, in the county hospital in Székesfehérvár, private patients were suffering from a similar complaint. Among them were two physicians who both contracted the disease at a swimming-pool, where they took sun-baths lying on wet grass.

THE NUMBER OF HOSPITALS IN HUNGARY

In the ten years between 1926 and 1936, Prof. Georg Gortvay reports a considerable increase in the hospitals of Hungary. The number of state hospitals rose from 9 to 31, of clinics and midwifery centres from 33 to 36, of county hospitals from 37 to 41, and of private hospitals of public character from 29 to 41. Private hospitals in which the selection of patients admitted is left to the discretion of the management increased from 62 to 109. Hospitals maintained by the Misericordian Order increased from 4 to 5. The number of prison hospitals decreased from 29 to 24. The number of patients who attended all these institutions rose from 311,898 in 1926 to 584,809 in 1936.

STANMORE ORTHOPÆDIC HOSPITAL

OPENING OF NEW TREATMENT BLOCK

ON July 19 Mrs. Walter Elliot opened the new treatment block at the country branch of the Royal National Orthopædic Hospital. The hospital had its beginnings in an orthopædic dispensary founded in Bloomsbury by W. J. Little in 1838 which, after two years, developed into the first orthopædic hospital in London. The hospital soon moved to better accommodation in Hanover Square, and in 1845 when it was granted a Royal Charter became the Royal Orthopædic Hospital. As interest in orthopædic surgery grew a second hospital was founded in Hatton Garden in 1851, and was called the City Orthopædic Hospital. In 1865 yet another hospital was opened—namely, the National Orthopædic Hospital, which was built on the now familiar site in Great Portland Street. In 1905 these three hospitals amalgamated to form the Royal National Orthopædic Hospital. In 1922 the hospital bought the Mary Wardell Home at Stanmore, and this became its country branch. At first there were only thirty-four beds and all the work, operating and radiography, was done in the rooms of a Victorian country house. But the growth of the hospital has been phenomenal. There is now accommodation for 276 patients with a convalescent block for another 44, and a training college for 112 boys handicapped by some permanent crippling defect. With this rapid growth came the necessity for enlarging the facilities for physical treatment, and particularly for the victims of poliomyelitis who have been admitted in increasing numbers during recent years. The provision of a pool for under-water remedial exercises was considered essential; such pools exist in a number of hospitals in this country and have long been a feature of orthopædic hospitals in the United States and Scandinavia where poliomyelitis is a constant and serious problem. Their essential features are that they shall contain warm water and be easy to manage. The pool at Stanmore has been designed to make the task of the masseuses as light as possible. The sides of the pool come well above floor-level, and there is a central deep trough for adult patients, and two bays for the treatment of infants. The corners of the bays are indented so that the masseuse can lean over the child without undue discomfort. The capacity of the pool is approximately 2500 gallons, the temperature of the water is maintained at 90° F. by thermostatic control, the circulation is continuous, and the water is filtered and treated with alum. Adjoining the pool are cubicles where patients may be sprayed with hot or cold water, dried, and given massage and exercises.

R. Fox

The pool for under-water remedial exercises

R. Fox

The new treatment block

The block has cost £17,000. A donation of £5000 from the executors of the late Caleb Diplock enabled the work to be commenced. It was their wish that the money should be devoted primarily to the construction of the swimming-pool, and the committee of management decided at the same time to erect a larger building for all the departments dealing with physical treatment, though this has meant waiting until other funds became available.

The other features of the treatment block are a large gymnasium which can also be used as a lecture-room, a light-treatment room containing Hanovia lamps, a large massage-room more than sufficient for the present needs of the hospital, a dental room (dentistry is an important part of treatment in long-stay cases), and a small lecture-room which is also used as a pathological museum. On the first floor is a large central linen-room sufficient to contain the linen for the whole hospital. There are over three hundred cupboards and each is aired by warm water circulating through pipes placed between adjoining cupboards; there is also a blanket store, sorting and receiving rooms.

GRAINS AND SCRUPLES

Under this heading appear week by week the unfettered thoughts of doctors in various occupations. Each contributor is responsible for the section for a month; his name can be seen later in the half-yearly index

FROM A WOMAN PUBLIC-HEALTH OFFICER

V

SOME time ago I met what is technically known as a Lovely at a hen-party. The fact that it was a hen-party alone explains why the much photographed and paragraphed beauty confided in the likes o' me. She had it appeared been electioneering for a boy-friend with disastrous results. "The Reds in that neighbourhood," she complained, "are a dreadful set. They have secret meetings where they practise making up difficult questions to catch us, and anyone who makes up a question that *no-one* can answer gets half a crown."

Even more successful than the Reds at this nefarious game, in my estimation, are the Young, especially the Young who are confronted prematurely by the great issues of birth or death. On several occasions non-medical parents, after introducing their offspring to the simple facts of reproduction, have rashly referred them to me for the answer to any supplementary questions (in the parliamentary sense). Here are some of the queries—*ipsissima verba*:

From a little girl of 6: "How does God know for certain that a lady would be kind to a baby and really wants to have one? Of course He would never send a baby to a lady if she *didn't* want one, would He?"

From a small boy, just under 7: "Mummy says the muscle in the womb is like the muscle of the heart and acts without us telling it to. Then how does the womb *know* when a baby is ready to come out and meet its Daddy?"

From another boy aged 7: "Mummy told me all about the way babies come but there is one thing I don't understand. It sounds awfully uncomfortable. Why do ladies do it?"

Can you blame me if I remembered with gratitude the base tactics of the Reds? Each child was hurriedly dispatched to the nearest Woolworth's—with a well-earned half-crown. . . .

* * *

High in the list of unanswerable questions propounded by those of riper years one would place the professional conundrum so often discussed in these columns: full-time service or private practice? Most of the writers seem to take the same view of full-time service that Calvin Coolidge's preacher did of sin. On the whole they are against it. It would sometimes be easier to agree with their conclusions if they did not state their reasons. Public medical services only exist because the country has found that certain things it wants are better supplied by communal effort. So long as they were left to private enterprise they were either not done at all, or were badly or inadequately done. That is a matter of medical history. It does not logically follow however that the whole of medical practice would be better conducted by whole-time officers. Surely this is a purely empirical question to be settled by careful testing and experiment item by item, rather than by the doctrinaire pronouncements one hears from either side.

As for the effect on the life of the doctor himself of whole-time or private practice, it is difficult for me, as an Irish politician once said, to be either partial or impartial in this dispute. Life is a series of compromises and we have all to decide which of the modes of life open to us will enable us to live nearest to our desire. "Take what you like—and pay, says God." For many, a full-time public service really does enable them to do the sort of things they want most, and at no heavier payment than any other choice would exact. Probably the true reasons why one decided as one did are known only to our Creator and our Analyst (if any) and it is not necessary to pretend here that such reasons are always altruistic. I can remember a fellow-student at the Rotunda who was overheard lamenting to his mates that a constitutional dislike for leaving his bed left him with no alternative but to become a (!) M.O.H. or marry a woman doctor who would take the night calls. Sometimes however Youth is genuinely moved by an irresistible impulse towards what American health literature pompously calls Human Betterment, but may be more modestly described as tidying up the grosser muddles humanity has made for itself, such as slums or venereal disease. It is even alleged that men have been drawn into the public service by a strange passion for statistics, satiable in no other way. . . . Or again by lazily taking the first chance that offers and without conscious plan at all.

* * *

But having rightly or wrongly made the choice, what of the payment? "You surrender clinical interests," says one critic; but he is obviously out of date, for a state or municipal service may nowadays provide unrivalled chances for developing purely clinical or scientific bents.—"You become callous and lose touch with the individual," says another. Do we? Administrative work consists largely in seeing that obscure and helpless people get a fair deal, and in securing the rights of individuals who hardly know they possess them. And if the critics think that they can do work under public bodies at clinics or hospitals and neglect the interests of the patients they had better not come and try!—"You surrender

your freedom," says the voice that penetrates most clearly. Unlike the millions of our fellow human beings who inhabit the totalitarian states (and the few thousands whom I saw prostrating themselves in the Earls Court stadium one Sunday) we still consider that a reproach. My generation of youth believed that Freedom was a thing to die for and not a thing to trade for a coloured shirt. I am inclined to believe that British youth thinks so still. It is altogether wholesome that there should be a dread of a slave status in any branch of the medical profession.

How far is the fear justified? Members of a highly organised profession must from the moment they register as students with the General Medical Council suffer restrictions on their liberty of action for the common good. Nor do the fetters fall off when one is qualified. I have no desire to emulate the author of "The Citadel," but do general practitioners—the chosen guardians of British liberty—never have to compromise to keep their patients and their appointments? As for the specialist, when we in the health services watch him staggering along the rolling English road to Harley Street via the voluntary hospitals, are we not sometimes moved to almost pharisaical thankfulness for our own lot?

* * *

Having decided, as we surely must, that every branch of medicine has its own perils, let us admit handsomely that the production of the yes-man is the great occupational risk of a full-time service. One knows how it begins. A friend once told me that she could do no research in her school medical work, could not even become properly acquainted with local conditions, or follow individual cases. In her county the assistant school medical officer's duties were regulated by a clerk whose whole idea was to keep down travelling expenses. None of them ever protested . . . after one man had been sacked for doing so. If in subordinate ranks yes-man-ship leads to a wicked waste of opportunity, in the higher ranks it becomes a public menace. There is no-one competent and available to do a big job when it is required, perhaps for the national safety, and the lay administrator is hoist with his own petard.

An unpleasant variant of the yes-man is the official who adopts what has been described as the "racing-cyclist attitude." His back is bent to his superiors and his feet are busy treading down those below, and sometimes (in an ill-managed service) he may go far and fast. As we all recognise, the Jabberwock of whom we must beware is the Lay Administrator who would in time kill any service. There is no reason why he should be given the chance. "What has that fellow got we haven't got?" is a fair question to ask, and we've got any amount of relevant knowledge and experience that he hasn't.

* * *

What is the fundamental secret of this freedom? One of the Fathers of the Church has said that it is to learn such subordination of the senses to the spirit that one is able to act as one believes to be right on any issue and at any time. I recalled this definition vividly at the finest moving-picture I have ever seen—Paul Muni's Zola. On each of my three visits the audience thrilled to this abstract idea as I have never seen them moved by a love scene. You will remember that Zola who had known years of privation and fought his grim battles with entrenched privilege has won through to ease and honour. And now comes a call to surrender everything and start all the battles over again, but equipped now with the tired body and brain of old-age instead of the urgent vigour of youth. He could respond as he did because he had never become a slave to his own success. That is the real freedom—and to this humble observer it appears as a rare treasure of the human spirit, hard to win and hard to retain whatever one's path in life.

Now I get back on the fence again—no doubt to the relief of the spectators—with an added respect for those who came before and greetings to those who come after.

Next month Doctor Don will be responsible for these columns.

INFECTIOUS DISEASE

IN ENGLAND AND WALES DURING THE WEEK ENDED JULY 15, 1939

Notifications.—The following cases of infectious disease were notified during the week: Smallpox, 0; scarlet fever, 1838; diphtheria, 836; enteric fever, 23 (51 "expected"); pneumonia (primary or influenzal), 508; puerperal pyrexia, 192; cerebrospinal fever, 33; acute poliomyelitis, 16; encephalitis lethargica, 1; dysentery, 32; ophthalmia neonatorum, 112. No case of cholera, plague or typhus fever was notified during the week.

The number of cases in the Infectious Hospitals of the London County Council on July 21 was 2900, which included: Scarlet fever, 777; diphtheria, 458 (carriers, 18); measles, 22; whooping-cough, 753; puerperal fever, 16 mothers (plus 8 babies); encephalitis lethargica, 306; poliomyelitis, 7. At St. Margaret's Hospital there were 23 babies (plus 10 mothers) with ophthalmia neonatorum.

Deaths.—In 126 great towns, including London, there was no death from smallpox or enteric fever, 4 (0) from measles, 2 (0) from scarlet fever, 14 (3) from whooping-cough, 9 (0) from diphtheria, 26 (9) from diarrhœa and enteritis under two years, and 5 (1) from influenza. The figures in parentheses are those for London itself.

Manchester reported 3 deaths from whooping-cough. Fatal cases of diphtheria were scattered over 7 great towns, Manchester reporting 3.

The number of stillbirths notified during the week was 245 (corresponding to a rate of 37 per 1000 total births), including 41 in London.

THE LANCET 100 YEARS AGO

July 27, 1839, *p.* 650.

From a lecture at the Metropolitan Free Hospital by Mr. P. Bennett Lucas.

Of the several ulcerations to which the tongue is liable, none are more likely to be confounded with each other than the cancerous and venereal, and this arises from the hardness which accompanies both; the hardness of the cancerous ulcer in this situation, as when situate in any other organ of the body, is, however, of the stony kind, whilst that of the venereal ulcer is more of the cartilaginous hardness; in the cancerous ulcer, also, the surface is very irregular, and presents granulations in one part, and in another a sloughy appearance, whilst the venereal ulcer is much less irregular, and presents the same kind of appearance for its whole extent. There are other symptoms in both these diseases of the tongue which will guide us in forming a correct diagnosis; of these the occasional darting pain which accompanies the cancerous sore, and the rapid extension of the ulceration, when contrasted with the comparatively stationary condition and slighter irritation caused by the venereal ulcer, are very characteristic. The history of the symptoms which preceded the venereal ulceration, the presence of other venereal symptoms, together with the salutary influence which the exhibition of mercury almost immediately exercises over the venereal sore, are the most unequivocal guides to the surgeon.

LETTERS TO THE EDITOR

DISTURBANCE OF MEMORY AFTER CONVULSION TREATMENT

SIR,—Having read with great interest the article by Drs. G. Tooth and J. M. Blackburn, in your issue of July 1, we should like to point out that we have been working on the same subject and our article was published in full in the *Zeitschrift für die gesamte Neurologie und Psychiatrie*, 1939, **166**, No. 1.

We append a short summary of our results. We in the Budapest University Hospital for Mental and Nervous Diseases followed up 1–4 years after treatment 419 cases of schizophrenia, comparing the cases actively treated with those not actively treated or treated by other methods. We examined after treatment 85 cases with insulin, 50 with Cardiazol (Tetracor), and 132 cases which did not undergo active treatment. The results may be thus briefly summarised.

In the cardiazol group we had 22·8 per cent. full and good remissions examined after treatment, in the insulin group 30·6 per cent., and in the untreated group 35 per cent. Thus later examination showed that better results were obtained in the untreated group. If we consider separately those later remissions which occurred more than 6 weeks after the treatment had been stopped and those which could not directly be ascribed to the active treatment, the actual figures for cardiazol are 13 per cent. and for insulin 15 per cent.

We must confess that these results are very depressing, the number of recoveries observed by us being no larger than before the introduction of cardiazol therapy.

We are, Sir, yours faithfully,

LEHOCZKY, HORÁNYI,
ESZENYI, BAK.

Budapest, Istenhegyi ut, 4/F, July 20.

TRANSFUSION SYPHILIS

SIR,—There was a suggestion in your issue of July 15 (p. 170) that there are many more cases of syphilis insontium than are revealed and a recent example was quoted of the conveyance of infection by blood-transfusion. An annotation of the same date in a contemporary [1] mentions the risk of syphilis being transferred from an infected donor to a healthy recipient. That risk is a very real one, and, as far as can be ascertained, there are few blood-transfusion empanelling centres in which examination of volunteer donors for syphilis is carried out as a routine. In a recent letter to the public press [2] Lord Dawson states: "All that is required of volunteers now is a few drops of blood to enable a grouping test to be made." That, however, is not nearly enough. At the time the grouping test is done the volunteer should undergo a thorough clinical examination by a syphilologist and a specimen of blood should be submitted to the Wassermann and Kahn tests. Only after these investigations have yielded negative results in respect of syphilis should the volunteer be placed upon the list of *potential* donors. Positive clinical or serological findings would exclude the volunteer as a blood-donor. When the time comes for any volunteer on the list to provide a specimen either for immediate transfusion or for storage, there should again be carried out a clinical and serological examination before the specimen is used.

1. *Brit. med. J.* July 15, 1939, p. 121.
2. *Daily Telegraph and Morning Post*, July 6, 1939.

Since 1915 the following authors have reported cases of transfusion syphilis:—

(1) Fordyce, J. A., *Amer. J. med. Sci.* 1915, **149**, 781; (2) Bernheim, B. M., "Blood Transfusion," London, 1917, p. 62; (3) Brem, W. V., *J. Amer. med. Ass.* 1923, **81**, 532 (2 cases); (4) Spillman, L., and Morel, V., *Bull. Soc. franç. Derm. Syph.* 1926, **33**, 453; (5) Levy, L. I., and Ginsburg, L., *Amer. J. Syph.* 1927, **11**, 447; (6) Feldman, V., *Rev. franç. Derm. Vénéreol.* 1928, **4**, 341; (7) Dufour, H., *Bull. Soc. méd. Hôp. Paris*, 1929, **45**, 511; (8) Tzanck, A., *Ibid*; Marshal, A., *Ibid*; (9) Schulmann, É., *Prat. méd. franç.* 1929, **8**, 393; (10) Constantinescou, E., and Vatamann, N., *Ann. Mal. vénér.* 1929, **24**, 161; (11) Aubertin, C., and Fleury, J., *Bull. Soc. méd. Hôp. Paris*, 1930, **54**, 69; (12) Gougerot, H., et al., *Ann. Mal. vénér.* 1931, **26**, 174 (3 cases); (13) Polayes, S. H., and Lederer, M., *Amer. J. Syph.* 1931 **15**, 72; (14) Cordiviola, L. A., *Sem. méd.* 1932, **39**, 43; (15) Pinard, M., and Robert, P., *Bull. Soc. méd. Hôp. Paris*, 1932, **48**, 214; (16) Post, C. D., and Cooney, G. C., *J. Amer. med. Ass.* 1933, **100**, 258; (17) Cummer, C. L., *Amer. J. med. Sci.* 1933, **185**, 787 (2 cases); (18) Williamson, G. R., and Strong, R. A., *Amer. J. Syph.* 1933, **17**, 484; (19) Minanu, S., and Asabi-Fukuoka, *Derm. Urol.* 1933, **1**, 27; (20) Moore, J. E., Modern Treatment of Syphilis, Springfield, 1933, p. 456 (3 cases); (21) Pinard, M., *Bull. Soc. méd. Hôp. Paris*, 1934, **50**, 416 (3 cases); (22) Carnot et al., quoted in *J. Amer. med. Ass.* 1934, **101**, 1773; (23) Garner, V., *Arch. Derm. Syph. Wien*, 1934, **30**, 480; (24) Jones, H. W., et al., *Amer. J. Syph.* 1935, **19**, 30 (4 cases); (25) Morgan, H. J., *Amer. J. med. Sci.* 1935, **189**, 808; (26) Perin, M. L., and Lefevre, M., *Bull. Soc. franç. Derm. Syph.* 1935, **42**, 954; (27) Mandelbaum, H., and Saperstein, A. N., *J. Amer. med. Ass.* 1936, **106**, 1061; (28) Pautrier, L. M., *Bull. Soc. franç. Derm. Syph.* 1936, **43**, 503; (29) Klander, J. V., and Butterworth, T., *Amer. J. Syph.* 1937, **21**, 652; (30) Rein, C. R., et al., *J. Amer. med. Ass.* 1938, **110**, 13.

This gives a total of over 40 cases of transfusion syphilis occurring under peace-time conditions, and probably a great many more instances have occurred but have not been diagnosed as such. It is obvious that if, as Lord Dawson states, one out of every ten persons wounded in air-raids requires blood-transfusion, the danger under war-time conditions will be much greater unless measures are taken to eliminate syphilitic donors. In most instances it would appear that the donors causing transfusion syphilis were in the latent phase of the disease and were unaware of their infection. In some instances the donors were serologically negative, being in the pre-chancre or incubation stage of syphilis.

There are certain points to which I would particularly direct attention:—

(1) The positive Wassermann test will detect only the most obvious risks of infection.

(2) The presumptive precipitation test such as the Kahn should be the test of choice since it is more sensitive and more easily and quickly applied than the Wassermann in emergency.

(3) A thorough physical examination, carried out by an experienced syphilologist, should be done on every donor before being put on the list and again before a specimen is taken for storage or immediate transfusion, in addition to a Wassermann and/or presumptive Kahn test.

(4) Clinical examinations and serological tests done at intervals are valueless.

(5) Donors should be carefully selected from persons of the highest moral and of satisfactory social status in order to minimise as far as possible the use of blood from a person in the incubation period of syphilis.

In the annotation already mentioned it is stated: "In any event, the risk (of syphilis) is borne by the recipient and not the donor." There are, however, several cases on record where the donor has been infected by the recipient owing to cannulas being inadvertently exchanged, and to other errors of technique. With stored blood this danger ceases to exist; but in all direct transfusions carried out in normal times, for conditions such as hæmorrhage or aplastic anæmia, the donor ought to be as well assured

of protection against accidental syphilis as is the recipient.

It would be interesting to have the medicolegal position with regard to these matters authoritatively clarified.

I am, Sir, yours faithfully,

E. T. BURKE,

July 18. Director, L.C.C. (Whitechapel) Clinic.

*** Colonel Burke raises points of obvious interest and importance at a time when the possibility of blood-transfusions on the largest scale has to be envisaged. They show, however, only one side of the picture, and perhaps overemphasise it. No person in imminent risk of death from hæmorrhage would hesitate to accept the very slight risk of infection, with syphilis or with any other infective disease, involved in a blood-transfusion, nor would any medical man hesitate to take that risk on his or her behalf. That this risk should be reduced to a minimum all would agree, and Colonel Burke's letter is particularly valuable in emphasising that an adequate clinical examination, and a Kahn test, at the time the blood is taken for storage or administration, are a better safeguard than similar tests carried out weeks or months before, when a donor is enrolled. So far as an emergency permits we have no doubt that all possible precautions will be taken. Any risk to the donor, as Colonel Burke is careful to point out, ceases to exist when, as in the present emergency scheme, all blood is taken into bottles for storage, or for indirect administration.—ED. L.

ORTHOPTICS

SIR,—In your report (July 15, p. 135) of the Oxford Ophthalmological Congress I was not surprised to learn that members were divided in their opinions about the value of orthoptic training for heterophoria. I was, when in practice, well satisfied with the result of the treatment I adopted for this condition and very rarely had to resort to operation. It is most important that treatment should commence as early as possible—this is much more easily done now that child welfare and municipal eye clinics are the rule.

After retinoscopy under atropine glasses are prescribed in all cases. These glasses should be worn constantly, not only during the day but at night as well. I have never known a child having received any injury from this. Young children generally awake much earlier than their nurses or parents and they pass this time with all kinds of ocular exercises. If a squint already exists it is necessary to prevent amblyopia developing. The occlusion of the fixing eye is irritating to the child and can better be done by slightly smearing with vaseline or butter the lens of the fixing eye, taking care that the lens of the squinting eye is meticulously clean. After instruction and explanation the mother or nurse carries this out. A month or so of this treatment will soon improve the vision of the squinting eye; of course the vision of the fixing eye will suffer to some extent, but by alternating this treatment the equal development of each eye can be assured and the vision the same. If with correction both eyes come to normal then the ordinary games and occupations will develop as much fusion sense as they are likely to get. The strabismus disappears gradually, only to appear at times of mental excitement or bodily disorder.

I am, Sir, yours faithfully,

G. AUBREY JELLY.

Lytham, Lancs, July 20.

THE VACCINATION OF QUEEN VICTORIA

SIR,—In the note on Jenner as Royal Physician on p. 170 of your issue of July 15 you state that the vaccination of Queen Victoria in 1819 cannot be traced to him. Actually this vaccination was done by T. J. Pettigrew, and is described in his Medical Portrait Gallery, vol. iv, section Pettigrew, p. 15, as follows:—

"Upon the birth of the Princess Victoria, His Royal Highness (the Duke of Kent) was pleased to entrust to me, in conjunction with his domestic physician, Dr. (now Sir Isaac) Wilson, my old and much esteemed friend, the selection of a proper subject from whom the vaccine lymph for the inoculation of the Princess was to be obtained. This honour was conferred on one of the children of the late John Elliot, Esq., of Pimlico, who married a daughter of my dear friend, Dr. Lettsom. I attended at Kensington Palace, and there vaccinated her present Majesty, to the entire satisfaction of her illustrious parents."

Vaccination, it should be remembered, in those days was from arm to arm, and it was extremely important that the child from whom it was taken should be free from hereditary disease. That is why Dr. Lettsom's grandson, Edmund Elliot, was chosen. He died a lieutenant in the Madras Infantry in 1841, and there is a portrait of him on p. 472 of my "Life of Lettsom." John Lettsom Elliot (1804–98), an elder brother of Edmund Elliot, held the infant princess in his arms when she was being inoculated from his baby-brother, and he was in the habit of describing this episode in his old age occasionally at the Athenæum, of which he was for years the last surviving original member. There is a wax medallion of him by Lucas preserved in the library of the club.

The story of the vaccination was retold to Queen Victoria about the time of the Diamond Jubilee. She was most interested, and it was arranged by Sir Lionel Cust that she and Lettsom Elliot should meet. But nothing came of it. They were both too old and feeble by then.

I am, Sir, yours faithfully,

J. JOHNSTON ABRAHAM.

Queen Anne Street, W.1, July 24.

TRANSMEATAL ATTICOTOMY

SIR,—Mr. Tumarkin, in his article in your last issue (p. 189), is in error in saying that his operation of transmeatal atticotomy has apparently never been performed in England, although no doubt his assertion is made in all good faith. More than thirty years ago, when the old operation of ossiculectomy was becoming obsolete, I performed from time to time, in selected cases and with excellent results, an operation entailing the removal *per meatam* of the outer attic wall to drain the attic and allow of the removal of any granulation tissue present. It became clear to me that this comparatively simple procedure would in many cases save patients from the more serious radical mastoid operation and, in addition, ensure better preservation of hearing. From that time onwards I have performed the operation in suitable cases, and it should in my opinion be deemed the operation of selection.

Mr. Tumarkin may, with reason, ask why I have never published my results, and I once had a friendly argument upon this question with my friend Dan McKenzie. My reason for silence was that a clinical assistant at the Royal Ear Hospital, whose experience was less than three months, essayed to perform the

operation, without consulting me, on a patient of his own. He succeeded in dislocating the ossicles and injuring the facial nerve. After this untoward event I decided it would be better not to publish any description of the operation, but to impart it only to those who could be trusted to perform it safely.

I am, Sir, yours faithfully,

Harley Street, W.1, July 21. MACLEOD YEARSLEY.

INSULIN RESISTANCE

SIR,—The problem of "insulin resistance" attracted attention almost as soon as insulin came into general use. The term is not, unfortunately, well defined and may on the one hand be employed to include cases such as that of Root, in which the patient died in coma though taking 1680 units of insulin a day, and on the other the relatively resistant cases which are a commonplace of diabetic practice. It is also applied to the transitory resistance encountered in infections, and to the resistance met with in thyrotoxicosis and acromegaly. We assume that Professor Himsworth, in his last Goulstonian lecture, is dealing with the relative resistance to insulin shown by a large proportion of uncomplicated diabetic patients.

Himsworth states that among diabetics the insulin-sensitive and insulin-resistant cases are clearly differentiated by his insulin-glucose test, and do not merge into each other. This has not been our own experience. Using the insulin-glucose test, we have found every gradation from sensitive to resistant. There is no reason to believe, as Himsworth suggests, that this is due to infrequent blood sampling. Two samples taken half and one hour after administration of glucose and insulin, the period during which the difference between the groups is stated by Himsworth to be most marked, should obviously suffice to determine the general direction of the curve and to differentiate, if this is possible, two clearly demarcated types. This is obvious from the curves given by Himsworth himself. Though in some diabetics insulin resistance may be permanent, we have shown that in others insulin resistance, as determined by the insulin-glucose test, is purely transitory and may be converted by suitable dietetic measures to insulin sensitivity.

Himsworth believes that the difference between the two types under the conditions of the test lies in the inability of the peripheral tissues of the insulin-resistant diabetic to remove sugar from the blood, insulin-sensitive subjects, on the other hand, showing a marked arteriovenous blood-sugar difference. He misinterprets the work of one of us when he states that he (W. J. G.) found a difference in the peripheral insulin effect in the two types of sufficient magnitude to afford support for this contention. Actually, no significant indication of a difference in the peripheral response was found, and it was this fact that led us to conclude that the cause of the difference in the arterial blood-sugar curves of the two groups in the insulin-glucose test was to be sought for centrally—that is, in the liver storage.

We are, Sir, yours faithfully,

O. L. V. DE WESSELOW,
W. J. GRIFFITHS.

St. Thomas's Hospital, S.E.1, July 24.

PARLIAMENTARY INTELLIGENCE

ON THE FLOOR OF THE HOUSE

BY MEDICUS, M.P.

THE decision of the Special Commissioners for Income-tax that the sick-pay of a member of a sickness annuity and life assurance society and of the Dentists Provident Society was assessable to income-tax has already been the subject of a statement in Parliament by Sir John Simon, Chancellor of the Exchequer. Last week further questions were asked, but as the decision is now the subject of an appeal its implications were not fully dealt with. The matter is one of interest not only to members of the medical and dental professions, although the decision was given in the case of a gentleman qualified as both doctor and dentist and practising as a dentist, but to every person who draws sick-pay. The decision on appeal must be awaited before further comment is made, but the facts of the case are interesting.

The gentleman concerned originally joined a friendly society registered under the Friendly Societies Acts which at a later date became a company but continued to insure its members for sickness-benefit on the same terms as those originally agreed. The Dentists Provident Society, to which the same gentleman also belonged, has always been a registered friendly society. In both cases the right of a member to receive sickness-benefit depends on the continuance of the payment of subscriptions by way of premiums. The member concerned has drawn sickness-benefit since January, 1931, when he was incapacitated from following his profession as the result of an accident. Each year since that time the member has returned a statement of his income to the Inland Revenue authorities and has included each year the amount of sick-pay he received from both sources. In October, 1938, the member for the first time received an assessment under Schedule D on this sick-pay which was described as follows: "From profits of trade &c. of—Pensions." In November, 1938, the member received notices of assessment under Schedule D for each of the six years 1932–33 to 1937–38 inclusive.

If the decision is upheld on appeal it will presumably apply to any sick-pay for any period.

* * *

Another matter which is now being considered just behind the parliamentary stage—by parliamentary advisers of some of the most important local authorities—is that of the conditions under which children are kept when "minded" for the day. The child minded for the day is, of course, quite distinct from the foster-child, whose interests are safeguarded by the child-life protection clauses (in London) of the Public Health (London) Act of 1936. There is no obligation on the part of those minding children by the day to notify the fact that they do so; it is in consequence not possible to state how many of such minders there are nor under what conditions children are minded. But some bad cases are known. It is hardly likely that the total of minded children is less than half the number of foster-children and there may be many more than that.

The new parliamentary secretary to the Ministry

of Health is Miss Horsbrugh, who is known to be interested in this problem and it is to be hoped that she will activate this and other questions concerned with the health of women and children. Such activities are always welcomed by Parliament and Miss Horsbrugh has all-round good wishes in her new work.

* * *

Most of the parliamentary week has been taken up with war-risk insurance and kindred subjects related to the present disturbed international situation. But on Friday the Opposition had chosen the Home Office vote so that the matter of juvenile labour could be considered. The debate revealed the fact that there are still about half a million juvenile workers under 16 in factory employment. Of these there were 44,000 in trades connected with the cotton industry, where exemptions had been given by the Government for the children concerned to work forty-eight hours a week and 29,000 in the printing and book-binding trade for forty-five hours a week, the week in the last case being one of five days of nine hours each. The rest of the children will work forty-four hours a week. There was a curious far-off echo of ancient debates on the employment of infants in the cotton mills at the time of the industrial revolution. One member supporting the longer hours for children said that work in the cotton industry was found "particularly suitable for them. Their employment in this work would help to train them and lead them into adult employment." Practically no one else took this view. Lady Astor asked: "Do you really suggest that the cotton industry cannot just as well engage children of 16 as children of 15?" Mrs. Tate said that "if the welfare of an industry depended on the overworking of children the sooner it was wound up the better." Mr. Wakefield said that cases of young people being employed for long hours were far too numerous. "The work of fitness and youth organisations," he said, "was being steadily inteffered with because young people were too tired when they arrived at their clubs." Mr. Tomlinson, the Labour M.P. for Farnworth, said his father went into a cotton mill at 8 years of age, and he looked back himself to the days when "he attempted to find his way on the arm of his father, finishing his sleep as he went through the fields," to the factory, and wondered how people could manufacture a phrase and describe this as "beneficial employment."

The undesirability of long hours for girls of 14—the future mothers of the nation—and of spending large sums on education wasted by children going into industry too young, and many allied matters, were raised by speaker after speaker. Fitness and health have become political questions of parliamentary importance. The House evidently agreed with Mr. Ridley when he said that they were dealing with children and should "completely disapprove of conditions for other peoples' children which they would not tolerate for their own."

Behind the fog of war, or rather of war measures in Parliament, an opinion is shaping which is ready for an extension of improved conditions at both ends of the wage-scale. A raising of the age of entrance into industry would take many young people off the labour market, and an increase in old-age pensions, which has become a very live issue and on which Parliament debates this week, would take some more off at the other end.

Despite the Dictators things move.

FROM THE PRESS GALLERY

The Milk Industry

IN the House of Lords on July 21 the Earl of FEVERSHAM, parliamentary secretary to the Ministry of Agriculture, moved the second reading of the Milk Industry (No. 2) Bill, which has already passed through the House of Commons. Although this bill was necessarily limited in scope it was, he said, a further contribution to the main objective of milk policy—to increase the consumption of milk. Steps were being taken by the Government to secure that the greatest possible advantage was taken of the milk-in-schools schemes. As regards mothers and young children, although a scheme was introduced by the Scottish Milk Marketing Board early this year, it had not been possible to begin such a scheme in England, but agreement had been reached within the last few days with the English Milk Marketing Board as to the financial basis for such a scheme, and the board would submit a scheme at an early date. This would provide for the supply of milk to local authorities for maternity and child-welfare purposes at 2*d*. a pint, or 1*s*. 4*d*. a gallon, little more than half the ordinary retail price.

The development of the scheme would depend on the initiative shown by local authorities, and on the response of the mothers and children. It would be for the local authorities to prepare their proposals and submit them for the approval of the Ministry of Health. They would be able to authorise the supply of milk to the consumer free, for part payment, or at the reduced price of 2*d*. a pint. The balance of the cost of any milk supplied at less than 2*d*. a pint would fall on local authorities' funds. The Exchequer grant until the end of September, 1940, would be sufficient to bring the board's returns on milk supplied under the scheme up to an average of 1*s*. 2*d*. a gallon on the year. The rate of any grant for the future would be reviewed before the end of September, 1940, in the light of the experience gained. It was proposed that the distributive margin on milk sold under the scheme should be not more than 8*d*. per gallon.

The bill could, of course, only be regarded as an interim measure. Nevertheless, it provided for improvement in the quality of the milk-supply, which was an essential feature of a policy directed towards increasing milk consumption. The objective of permanent milk policy must be a self-supporting milk industry, assisted only so far as might be necessary to prevent the price structure from being undermined by competition from overseas.

The Earl of ONSLOW, Chairman of Committees, recalled the outbreak of typhoid on the south coast three years ago. He said that the corporation of Poole, very properly desiring to extend every protection to their inhabitants and visitors, brought in a clause in their general bill dealing with pasteurisation of milk. In the same session quite a different scheme was brought in by Glasgow. After some controversy the Government through Lord Halifax expressed the view that pasteurisation would be more properly dealt with in general rather than in local legislation. Lord Halifax had added that it was the intention of the Government to bring forward long-term legislation dealing with general milk policy in the near future. On that announcement the Poole clause was withdrawn and Glasgow dropped their bill. That speech of Lord Halifax was made in April, 1937, but it was not until this spring that the first Milk Bill was introduced in the House of Commons. That bill included provision for pasteurisation, but the measure had had to be dropped and the present bill was only of an interim character. Lord Onslow asked what the Government's attitude would be if a local authority brought forward a private bill for next session dealing with pasteurisation on lines similar to those of the Poole and Glasgow bills.

Lord LUKE said that the milk-control schemes had served a useful purpose, but hospitals had suffered

severely from them. The cost of milk at the higher price they paid today as compared with 1932–33—the year before the milk control came into being—meant an expense of about £115,000 more per annum to the hospitals. A hospital with 500 beds required at least 100 gallons of milk a day. At present prices a quarter of the total cost of hospital provisions was for milk. The quantity of milk supplied to the hospitals was 7,000,000 gallons per annum out of a total of 1,100,000,000 gallons—under a 150th part of the whole milk scheme. He was not asking for milk for the hospitals at the low price that butter manufacturers paid, but that the price should be reduced to what it was before 1932. Hospitals were not business concerns, and they could not raise their prices.

The Earl of FEVERSHAM in reply said that the proportion of accredited and T.T. milk on the market was now 40 per cent. of the total. Attested herds were producing over 50,000,000 gallons a year. He agreed that if it was considered as a long-term measure this bill would not be a satisfactory solution of the problems that confronted the milk industry. There was no more justification for the provision of milk at specially cheap rates with Exchequer assistance to hospitals than for the provision of other essential requirements, such as gas, coal, electricity, bedding and medicine. The fact that hospitals were doing beneficent work was surely not a reason why producers of milk should give them preferential treatment to the extent of selling milk at an unremunerative price. The Milk Marketing Board had already granted such concessions as they usefully could. The question of pasteurisation was clearly unsuitable to be dealt with in a short-term bill of this kind, and he could not give any statement of the Government's view on the general question. It was open to local authorities to promote private bills containing pasteurisation provisions, and if they did so the Government would consider such provisions on their merits.

Working Hours of Young People

In the House of Commons on July 21 a debate took place on the Home Office vote on the hours of employment of juvenile labour. Mr. RIDLEY said we moved with leaden feet in this matter. With all the tremendous advances in technical productivity the most that could be done was to think of an eight-hour day for children of fourteen. Conditions were permitted that required children of fourteen to rise at 5.45 in the morning when still overcome with sleep. He had a youngster of that age, and for all the money in the world he would not permit that child to engage in a process of ruining its health by compelling it winter and summer to wake up for arduous work at that hour. By the regulations the Home Secretary was depriving 38,000 young people of sleep and recreation. They were too tired at the end of a day's work to cycle or swim. What part could such young folk play in the national keep-fit campaign?

Sir CYRIL ENTWISTLE said that there were many factors in the question of the employment of young persons. Costs of production were important if an industry was to survive. A committee which spent five days hearing all the evidence put before it was satisfied that the processes on which young persons were employed in the cotton industry were not injurious to their health. It was true that no employment in a factory could be good for anyone, adult or young person; everyone would be better if they spent all their time in the open air. All these matters were, of course, relative, but it was found that the processes on which these young persons were employed were not arduous in the sense of being heavy manual labour or imposing a strain on them.—Mr. TOMLINSON said he himself went into a cotton mill at eleven years of age. If it was prejudicial for children to work 44 hours it was prejudicial for them to work 48 hours. It was all a question of degree of prejudice. One did not say that because a man had been poisoned for 23 minutes but would die in 25 minutes therefore the poison was good for him for 23 minutes.—Viscountess ASTOR said there must be something radically wrong with an industry if it depended on children of fourteen working 48 hours a week. If she had gone into a cotton mill at eleven years of age, or a child of hers had done so, the Red Flag would not have been red enough for her. Of all the countries in the world we ought to look after our juveniles in view of our falling birth-rate.—Mrs. TATE said the girls who were going into industry at fourteen were the future mothers of the nation. Whether they were going to be perfect for motherhood depended perhaps more than anything else on how they were treated between the ages of twelve and eighteen.—Mr. SEXTON suggested that a major factor in the reduction of accidents was the increased age of entry into industry, and that was a powerful argument for keeping children at school until they were fifteen.—Mr. MACQUISTEN said that 8 hours a day was too long for young people to work, and the half-time system would be much better for them. The foundation of national welfare was a healthy well-paid population, and people must not be overworked. The Home Secretary should reconsider these regulations.—Mr. COVE said that if he liked the Home Secretary could take a strong line on this question and say with the backing of the House of Commons that 44 hours was the maximum time which these children ought to work.—Mr. WAKEFIELD said that the work of fitness and youth organisations was being steadily interfered with because young people were too tired when they arrived at their clubs. We ought to see to it that our young people were given reasonable opportunities after their hours of work of building up their mental qualities, developing their physique, and being able to play games and continue their education.

Mr. RICKARDS, speaking as managing director of various textile firms, said that if these regulations were passed they would not make 1 per cent. difference to the young people going into the industry. What was damaging Lancashire far more was the malnutrition consequent upon low wages; and the main reason for that was foreign competition.

Mr. PEAKE, under-secretary, Home Office, replying to the debate, claimed that the legislation passed since 1933 showed that the Government was not unsympathetic to the claims of juvenile workers. It could not be said that certain industries had made use of the rights given to them by Parliament to claim exemption under section 71 of the 1937 act in regard to the employment of young persons for 48 hours a week. An industry had to pass through a very narrow mesh of conditions to secure that exemption. In a large number of cases an inquiry had been refused because a prima-facie case was not made out. Altogether about sixty representations had been made by relatively important bodies in respect of more or less distinguishable industries, and a considerable number from individual firms and smaller groups of employers. There were three cases in which regulations had been recommended and had already been issued in draft. These regulations provided that the longer hours should only apply to those who had reached fifteen years and upwards, except that those at present employed should continue in the present hours. In two other cases the recommendation of the court had been in favour of making regulations and these would shortly be issued in draft. In the case of one of these, the textile bleaching and dyeing industry, the same provisions as to hours had been made. In the other case, that of printing and bookbinding, the recommendation was that only one extra hour should be worked a week—45 in place of 44—by all juveniles under sixteen. The number of young persons employed in the five industries in respect of which draft regulations had been made or were going to be issued was between the ages of fourteen and fifteen 29,000, and between fifteen and sixteen 44,000—a total of 73,000. That was out of a total of about 500,000 juvenile workers under sixteen in factory employment. He claimed that the administration by the Home Office of section 71 of the act had been fair and judicial.

QUESTION TIME

JULY 20–26

M. & B. 693

Dr. SUMMERSKILL asked the Minister of Health whether he would state the chief considerations which led him to refuse to allow the drug popularly known as M. & B. 693 to be generally used by medical practitioners for patients who were treated under the National Health Insurance Acts.—Mr. ELLIOT replied: It is not correct that I have refused to allow M. & B. 693 to be used for the treatment of insured persons. Insured persons are entitled to this remedy in all cases in which practitioners responsible for their treatment consider that it is advisable. Prescriptions for M. & B. 693 have been given to insured persons ever since the drug came into use. I greatly deprecate the suggestion that permission to use this remedy has been refused, as it might lead to medical practitioners withholding it in cases where it would be of use. The suggestion may thus prejudice the chances of recovery of insured patients. No possible question even as to accounting can arise save in the small number of cases where the doctor receives a capitation fee for himself dispensing drugs, and then, if he considers that the cost of using this remedy is more than should be borne by his capitation fee receipts, he may apply to the Minister for sanction for a special payment. This also has been allowed in a number of cases.

Dr. SUMMERSKILL: Is it not a fact that the Minister was asked if he would put this drug on the special list of expensive drugs by the committee which deals with national health insurance work and that he said he could not allow that, but that in a year's time, when the price of the drug was reduced, he would reconsider it?—Mr. ELLIOT: No; the hon. lady has no right to say that at all. I have given the reasons for my answer. I say that this drug is available, always has been available, and always will be available for insured persons and the suggestions that it is not are totally unfounded and, what is more, dangerous to the health of the insured public.—Dr. SUMMERSKILL: I must protest (Cries of "Order"). May I ask whether the Minister will give me a direct answer "Yes" or "No," whether he did not refuse to put this drug on the special list at the request of the British Medical Association, and is it not a fact that in the current issue of the journal of the British Medical Association there is a statement that the minister has refused to put it on the special list and will reconsider it in a year? Can I have an answer "Yes" or "No."—Mr. ELLIOT: Certainly. I have refused to put it on the special list because it is obtainable under the ordinary arrangements for insured persons; and I have refused to put it on the special list because arrangements are made for dealing with these things separately. It is a matter of accountancy. The suggestion that this drug is withheld from insured persons is quite unworthy of the medical profession.

Dr. SUMMERSKILL asked whether the Minister was aware that manufacturing chemists possessed a monopoly of certain drugs, and by charging prohibitive prices prevented poor patients from receiving the most modern form of treatment; and whether, in the best interests of the community, he would take steps to remedy this.—Mr. ELLIOT replied: If the hon. member will give me particulars of the drugs which she has in mind, I shall be happy to look into the matter.

Dr. SUMMERSKILL: Is the Minister aware that the drug I have in mind is the drug I referred to in my last question, which he has refused to put on the special list, and which is being sold on the market at 7*s.* 6*d.* for 25 tablets; and because he has refused to put it on the special list it is being sold at a prohibitive price and is therefore unavailable for poor people?—Mr. ELLIOT: I think I have dealt pretty thoroughly with the hon. lady's suggestion, and I am perfectly willing to consider the question of these drugs if she will bring the facts to my notice. But, as I am informed, the actual cost of this drug is 4*d.* per dose, and not the figure which she gave.

Blood-transfusion Services

Mr. MANDER asked the Minister of Health whether the forms and other registration documents as used in the organisation of the emergency blood-transfusion services in the London area could be made available for the provinces; and whether, in order that the expense might not fall entirely upon voluntary organisations, financial and other assistance might be made available for the organisation of these services in the provinces as well as in London.—Mr. ELLIOT replied: I hope to be able to give some financial assistance, where necessary, towards the work of testing and registering blood-donors in some of the main centres in the provinces. Forms and other registration documents similar to those used under the arrangements for London would be made available for the provinces.

Captain PLUGGE asked whether when the first supplies of transfused blood were exhausted additional supplies would be obtained on a similar system of bulk collection, or whether those registering for transmission would be required to travel to different parts of the metropolis or the provinces for the purpose of blood-transfusion.—Mr. ELLIOT replied: The arrangements which are now being made are for selecting and registering donors of blood, and these volunteers will not be asked to give any blood unless and until an emergency arises. Their services will be required at the places where they have been registered, or, if they have moved, at the nearest hospital where the blood is being collected.

Medicine Advertisements in Stamp-books

Sir ARNOLD WILSON asked the Postmaster-General how many stamp-booklets had been issued, or prepared for issue, containing an advertisement of a proprietary medicine which promised immediate results to sufferers from rheumatism, backache, painful joints, and affections of the kidney, bladder, and prostate gland; on what date the existing contract for this advertisement would terminate; and whether his department had sought any expert advice as to whether or not it was in conformity with the restrictions proposed by the Select Committee of 1912.—Major TRYON replied: The answer to the first point is 10½ million; to the second, that there is no standing contract; and to the third, in the negative. Advertisements which specifically purport to cure any of the diseases mentioned in paragraph 58 (2) of the Select Committee's report are rejected. As the Assistant Postmaster-General stated in answer to a question on June 28, I am looking further into the policy of the Post Office in this matter.

Sir A. WILSON asked if the Postmaster-General would canvass the Government departments and the marketing boards with a view to pointing out the great opportunities offered to them by the space in these booklets.—Major TRYON said that the whole matter was being considered.—Mr. HARVEY asked if the right hon. gentleman would consult the Minister of Health on the matter of these advertisements.—Viscountess ASTOR: If you cannot advertise a cure for cancer, why can you advertise a cure for all these complaints?—No further reply was given.

Inoculation and Dental Treatment of Militiamen

Mr. NAYLOR asked the Secretary of State for War whether it was intended that militiamen should be subjected to inoculation and/or vaccination; and whether they would be given the option of refusing without penalty.—Mr. HORE-BELISHA replied: Militiamen will not be compulsorily inoculated or vaccinated.

Captain ELLISTON asked whether, except in cases of urgent emergency, militia recruits requiring artificial dentures might be directed to secure treatment in the manner authorised by the National Health Insurance Acts—namely, by obtaining dental letters from their approved societies for presentation to any registered dentist.—Mr. HORE-BELISHA, Secretary of State for War, replied: Militiamen reporting sick on dental grounds during training will receive any necessary treatment from the army, free of charge, including artificial dentures when they are essential. While under training, they will not be eligible for dental benefits under the National Health Insurance Acts. Those militiamen who were insured persons under the National Health Insurance Acts before being called up for service will continue to be insured throughout their training, the whole of the contributions being paid from army funds. They will, therefore, re-enter

civil life in exactly the same position with regard to dental benefits in their approved societies as if they had remained in insured civil employment.

Foreign Doctors

Mr. GEORGE STRAUSS asked the Home Secretary whether, in view of the shortage of doctors that would arise in the time of war, and the serious results of that shortage in the treatment of air-raid casualties and the morale of the civilian population, he would consider increasing the number of work permits to well-qualified refugee German and Austrian doctors.—Mr. PEAKE, Under-Secretary, Home Office, replied: After consultation with representatives of the medical profession permission has been given to a certain number of foreign doctors who have come here as refugees to practise or take appointments in this country, but there is a limit to the number of foreign practitioners who can properly be absorbed in the medical profession. The information my right hon. friend has as to the present position does not suggest that there is any such shortage or prospective shortage of doctors as would warrant any large addition to the number of foreign practitioners.

Insurance Benefits and Income-tax

Mr. BENN asked the Chancellor of the Exchequer under what statutory authority an insured person was immune from income-tax on benefits paid to him under the National Health Insurance Acts.—Sir J. SIMON replied: Benefits under the National Health Insurance Acts are not regarded as constituting "income" and consequently as attracting income-tax. There is no express definition of "income" in the acts but the above view has always been maintained in administering the acts.

Milk in Industries Scheme

Mr. ROBERT GIBSON asked the Minister of Agriculture how many firms had taken advantage of the milk in industries scheme, how many workpeople, men and women, respectively, were employed by those firms; how many of these took advantage of the scheme, and if he would give the names of the larger firms that had recently joined the scheme.—Sir REGINALD DORMAN-SMITH replied: I am informed by the National Milk Publicity Council that at the end of June this year 7123 firms in England and Wales were taking advantage of the milk in industries scheme. These firms employ 2,237,500 persons, but I am unable to say how many of these actually take milk under the scheme. A similar scheme is organised by the Scottish Milk Marketing Board in its area and I understand that about 1200 firms are taking advantage of it. While I cannot say how many persons are employed by those firms, I am informed that about 50,000 people are consuming milk under the scheme. As regards the last part of the question, I am told that the scheme has recently been adopted in England in the Vickers-Armstrong works at Barrow-in-Furness and in the Imperial Chemical Industries works at Billingham, and in Scotland by Messrs. Barclay, Curle and Co. and Messrs. Stewart and Lloyds, both of Glasgow, and by Messrs. Redpath, Brown and Co. of Edinburgh.

Milk for Civil Servants

Mr. ROBERT GIBSON asked the Minister of Health whether negotiations for providing milk for civil servants in Whitehall had been completed; what arrangements had been made for the distribution of milk; when the arrangements would come into operation and at what times of the day the milk would be available; and how many civil servants would be able to avail themselves of the scheme.—Mr. ELLIOT replied: So far as my department is concerned arrangements are being made as indicated in the question by the departmental Whitley council, through the National Milk Publicity Council. The delivery of milk will be between the hours of 10 and 11 A.M. to such of the staff as wish to participate. The date agreed provisionally for the commencement of the scheme is Sept. 4.

Pithead Baths

Mr. CAPE asked the Secretary for Mines how many mines were equipped with pithead baths up to the end of June, 1939; the districts covered; and the number of men and boys provided for in these baths.—Mr. GEOFFREY LLOYD replied: 287 pithead baths with accommodation for 361,732 men and boys and 750 women had been completed up to the end of last month. They are distributed equitably amongst all the coalfield districts, as shown in the published List of Pithead Baths (1939 edition), a copy of which I am sending to the hon. member.

Sulphanilamide Preparations

Mr. JOHNSTON asked the Secretary of State for Scotland to what extent the circular letter of Feb. 16, 1938, from the Department of Health for Scotland had stimulated a more extended use of sulphanilamide preparations for streptococcal and urinary infections; and if he had any information as to the hospital-bed accommodation which might thereby be made available for war emergency purposes.—Mr. COLVILLE replied: The use of these preparations by the medical profession in Scotland is, I am informed, increasing, but some of the newer derivatives particularly are still in the experimental stage. The answer to the last part of the question is in the negative.

Infectious Disease at Anti-aircraft Camps

Sir THOMAS COOK asked the Secretary of State for War what arrangements had been made to deal with possible outbreaks of infectious disease at the anti-aircraft camps at Weybourne and Stiffkey and other War Office establishments in Norfolk.—Mr. HORE-BELISHA replied: Arrangements have been made for cases of major infectious disease to be admitted to civil isolation hospitals, and for cases of minor infectious disease to be admitted to the Military Hospital, Colchester.

Pharmaceutical Services in Army and R.A.F.

Mr. THORNE asked the Secretary of State for War if he would consider setting up a committee, under the director-general of Army Medical Services, with the object of organising an efficient pharmaceutical service for the Army and the Royal Air Force.—Mr. HORE-BELISHA replied: My right hon. friend the Secretary of State for Air and I are both satisfied that the dispensing requirements of the Army and the Royal Air Force are adequately met by existing arrangements.

Production of Antitoxic Sera

Mr. LEACH asked the Secretary of State for War whether, in view of the valuable work rendered by army horses, he would prevent the sale of those horses no longer fit for active service to manufacturing chemists to be used for the purpose of producing antitoxin.—Mr. HORE-BELISHA replied: The production of antitoxic sera is a work of the utmost national importance, and I am advised that cast army animals are, for technical reasons, the most suitable for this purpose, and the process involves no cruelty to the animals.

Treatment of Disabled Ex-Service Men

Mr. BURKE asked the Minister of Pensions how many disabled ex-Service men had received treatment by the Ministry of Pensions during the last twelve months; and of these how many received special full treatment allowances, as laid down in article 6 of the Royal Warrant.—Sir W. WOMERSLEY replied: The number of disabled ex-Service men who received treatment at one time or another in the course of the twelve months ended June 30, 1939, was 13,013, including 5635 cases in mental hospitals. The records of my department do not enable me to give the precise information asked for in the latter part of the question, but it may be taken that in the great majority of cases full treatment allowances were payable.

". . . An old English physician has written: 'It is allowed that our first master Hippocrates never showed more wisdom and greatness of mind than in confessing his mistake in taking a fracture of the skull for the natural suture.' Hippocrates put that mistake on record; but we are not told that he made the confession of it to his patient. A doctor may hide his mistakes from his patients without loss of truth, but he must never conceal them from himself."—Prof. CHARLES MCNEIL addressing graduates of the University of Edinburgh, on July 19.

MEDICAL NEWS

University of Cambridge

At recent examinations the following candidates were successful :—

D.M.R.E.

Part I.—R. D. Howat and S. R. Reynolds.

Part II.—H. N. Bhatt, J. P. Bostock, Frederic Bush, F. M. Crawshaw, W. G. S. Harden, T. M. Hennebry, C. W. Horncastle, K. A. K. Kassem, C. F. MacGuire, S. A. Maddocks, R. T. Marshall, G. F. Rees-Jones, Zoë C. Rutherford, Eric Samuel, Ida B. S. Scudder, and W. E. M. Topping.

University of London

At recent examinations the following candidates were successful :—

M.S.

Branch I (Surgery).—F. R. Kilpatrick, Guy's Hosp.; W. R. Merrington, B.Sc., Univ. Coll. Hosp.; and J. E. Spalding, Guy's Hosp.

Branch III (Ophthalmology).—C. J. F. Blumenthal, Guy's Hosp.

Dr. W. G. Barnard has been appointed to the university chair of pathology at St. Thomas's Hospital medical school.

Dr. Barnard is 46 years of age. He began to study medicine at the London Hospital, but his studies were interrupted by his war service in France in the Field Artillery for two years. He was gazetted out of the Army in 1917 in order to qualify, and in 1920 obtained the M.R.C.S., L.R.C.P. After holding a clinical appointment at the London Hospital he worked in the pathological institute there, becoming junior assistant director of the institute. From 1923 to 1931, he was pathologist to University College Hospital and lecturer in morbid anatomy and curator of the museum in the medical school; during this period he worked for six months in 1927 as voluntary assistant to Professor Aschoff in Freiburg. In 1931 he was appointed consultant histologist to the London County Council and pathologist-in-charge of the Council's central histological laboratory at the Archway Hospital. He has examined in pathology for the Conjoint Board for the past three years. Dr. Barnard was elected to the fellowship of the Royal College of Physicians last year. He published a textbook entitled "Elementary Pathological Histology" in 1928 and has written many other papers on pathological and medicolegal subjects.

The title of reader in medicine in the university has been conferred on Dr. E. F. Scowen in respect of the post held by him at St. Bartholomew's Hospital medical college.

Dr. R. M. Calder has been reappointed to the Graham scholarship in pathology for a further period of one year.

Applications are invited for the William Julius Mickle fellowship of the value of at least £200. It will be awarded by the senate to the graduate of the university, resident in London, who has done most to advance medical art or science within the last five years. Further information will be found in our advertisement columns.

University of Edinburgh

At a graduation held on July 19 the address to the new graduates was delivered by Prof. Charles McNeil. The following degrees and diplomas were conferred :—

M.D.—P. C. Davie, †H. L. deWaal, I. J. Freedman, J. A. Guy, Robert Hardy, F. D. Hart (in absentia), * J. S. Jeffrey, J. A. M'Lauchlan, ‡W. M. Millar, ‡R. A. Miller, A. R. M. Moir, J. M. Rogan (in absentia), Maud I. Smith, and •Harry Stalker.

C.M.—‡C. F. W. Illingworth.

† Awarded gold medal for thesis.
‡Highly commended for thesis.
•Commended for thesis.

M.B., Ch.B.—W. J. Abel, Catherine J. A. Aitken, Ifan Ap Thomas, M. W. Archdall, G. W. Baker, G. W. Balfour, Beatrice M. Bartlet, Murdoch Beaton, Thomas Black, James Borrowman, Anne E. Boyd, D. K. Bradley, G. A. R. Brown, H. M. Brown, Kathleen M. Buchanan, D. W. Burton, C. S. Campbell, I. D. Campbell, William Carruthers, T. S. Chalmers, A. J. Clarke, J. C. Comline, Leonore S. Cooke, Monica de S. Craig, W. G. Cuthbertson, N. M. B. Dean, P. R. Dickson, Morag Dods, Glenys M. M. Donaldson, K. J. Dunlop, F. C. Edington, A. W. B. Edmunds, I. N. J. Eggeling, J. S. Elliot, A. F. El Shahed, Ruth A. J. Evershed, C. D. Falconer, C. W. A. Falconer, William Falconer, Jean E. Fleming, G. M. Forsyth, W. H. Galloway, Maxwell Gardiner, Elizabeth Gemmell, J. W. Gibson, W. W. A. Gibson, Agnes J. M. Gilruth, •R. H. Girdwood, C. A. Gleadhill, A. M. Glen, Patricia E. Goddard, W. W. Gordon, Sarah H. Graham, L. S. Grant, J. S. Gray, Constance F. Hardy, James Harper, A. B. Hegarty, A. G. S. Hill, D. W. Horn, Kathleen I. Hughes, Ethel J. Kay, J. A. Key, D. J. Kirke, B. D. Kohli, G. R. Kulkarni, W. R. Lamb, N. A. Lamberty, Anne M. Lauder, T. W. Leeds, W. I. Leslie, R. E. S. Lewis, Anne H. Lockie, A. M. Loughran, Jean M. M. Lyon, Catriona C. M'Callum, Betty P. M'Clements, M. P. M'Cormack, Mary B. M'Donald, R. M. MacDonald, E. C. MacFadyen, J. D. M'Gregor, A. S. M'Kenzie, L. M. Mackenzie, Margaret D. R. Mackinnon, Isobel J. M'Larty, Gilbert MacNaughtan P. C. M'Neil, J. O. F. Macrae, M. M. Macrae, Elizabeth M. L. MacWatt, Archibald Main, S. E. O. Martin, H. S. Marwick, A. K. M. Mazhar, J. B. Menzies, Nancy S. M. Milne, J. M. Muir, V. V. Muir, D. F. Mungall, J. A. L. Naughton, W. W. Park, J. L. M. Parnell, I. D. Paterson, Hugh Pattinson, S. S. Pavillard, H. J. B. Pershad, W. B. Preston, N. H. L. Pringle, Margaret E. Quin, A. S. Qunta, A. R. Ralley, G. J. Ralston, G. W. Reid, J. H. Robarts, A. A. C. Ross, D. F. Ross, John Rutherford, J. C. B. Serjeant, R. P. Seymour, D. W. Shannon, T. R. Simpson, S. A. Sinclair, K. A. Sleem, Mora A. Smeaton, A. M. Smith, W. L. Smith, Randal Stalker, G. D. F. Steele, William Storrar, Catherine M. Sutherland, G. B. Tait, A. W. O. Taylor, A. C. P. D. Thomson, A. M. Turnbull, A. J. Varga, Ekkehard von Kuenssberg, Andrew Walker, D. G. Walker, G. B. Walker, H. W. Whitcher, G. R. Wightman, W. C. Wightman, I. D. Willatt, D. E. Williams, T. G. Wilson, G. B. Young, and W. K. Young.

•With honours

B.Sc.—G. W. A. Dick, M.B., and William Forbes, M.B. (with first-class honours in pathology).

D.P.H.—G. F. Anderson, C. E. S. Bailey, E. W. Graham (in absentia), Alison M. B. Hamilton (in absentia), Betty C. Hamilton (in absentia), M. S. Khan, R. B. Lucas, Edith M. Martin, R. M. Ross (in absentia), Jasmine Taylor (in absentia), and R. M. White (in absentia).

D.T.M. & H.—H. L. de Waal, Thomas Evans, and Joan F. M. E. Lamplugh.

Diploma in Psychiatry.—S. I. Ballard, Kathleen B. Cobb, J. J. M. Jacobs, W. W. Laughland, James Leckie, Antranig Manugian, W. M. Millar, and R. M. Young.

D.M.R.—W. N. Brown, and Joseph Phelan.

The following awards of prizes were made :—

Cameron prize in practical therapeutics to Gerhard Domagk, Elberfeld, in recognition of his discoveries which initiated the treatment of diseases of bacterial origin by compounds belonging to the sulphonamide group; Ettles scholarship and Leslie gold medal, R. H. Girdwood, M.B.; Scottish Association for Medical Education of Women prize, Leonore S. Cooke, M.B.; Mouat scholarship in the practice of physic, D. W. Burton, M.B.; Buchanan scholarship in midwifery and gynæcology, Betty P. M'Clements, M.B.; James Scott scholarship in midwifery and gynæcology, Leonore S. Cooke and Nancy S. M. Milne, M.B.; Dorothy Gilfillan memorial prize, Glenys M. M. Donaldson, M.B.; Conan Doyle prize, D. W. Burton; Beaney prize in anatomy and surgery, Keith memorial prize in systematic surgery, Royal Victoria Hospital Tuberculosis Trust gold medal, and Wightman prize in clinical medicine, R. H. Girdwood; Annandale gold medal in clinical surgery, Leonore S. Cooke; Murdoch Brown silver medal in clinical medicine, Glenys M. M. Donaldson; Sir Robert Jones prize in orthopædic surgery, Constance F. Hardy, M.B.; Sir Humphry Rolleston prize, Maxwell Gardiner, M.B.; Murchison memorial scholarship in clinical medicine, A. J. M. Drennan, M.B.; M'Cosh bursaries, James Innes, M.B., and F. H. Robarts, M.B.; Vans Dunlop scholarship in public health and clinical therapeutics, I. A. G. MacQueen, M.B.; Gunning Victoria jubilee prize in bacteriology, in therapeutics, and in child life, and health, H. L. de Waal, M.D., J. D. Allan, M.B., and R. A. Miller, M.D., respectively; Thomson memorial medal in child life and health, R. A. Miller; Wellcome medals and prizes in the history of medicine, H. L. de Waal and Sarah H. Graham, M.B.

Royal College of Physicians of Edinburgh

A meeting of the college was held on July 18, with Dr. Alexander Goodall, the president, in the chair. Dr. Basil George Tonge Elmes (Nigeria) and Dr. Alistair Gibb Stevenson (Durban) were elected to the fellowship.

Royal College of Surgeons of Edinburgh

At a meeting of the college held on July 21, with Mr. W. J. Stuart, the president, in the chair, the following were admitted to the fellowship :—

Robert Randolph Mutrie, M.D., Queen's Univ., Kingston; George Alexander Hay Adam, M.B. Glasg.; Henry Israel Baigel, M.B. Cape Town; Arthur Fawcett Miller Barron, M.D. Edin.; Thomas John Beresford, M.B. Melb.; Arthur Bickford, M.D. Man.; Willem Christiaan Botha, L.R.C.P.E.; William Scott Charlton, M.B. Sydney; Sidney Joel Cohen, M.B. Witwatersrand; David Hunter Cummack, M.B. Edin.; Tulsi Das, M.B. Punjab; Edmund Were Dorrell, M.R.C.S.; Gordon Walter Duncan, M.B. Lond.; John Woodward Hannay, M.R.C.S.; Edward Speid Jamieson, M.B. N.Z.; Beatrice Mary Joly, M.D. Lond.; Marcus Matthew Kennedy, M.B. Sydney; James Tait Laurenson, M.B. N.Z.; Donald McIntosh, M.B. Edin.; Ronald Duncan Macrae, M.B. Aberd.; Kenneth Ian Macrosson, M.B. Glasg.; George Brown Mair, M.B. Glasg.; William Alfred Mort Marrow, M.R.C.S.; Mahmuda Ghulam Mohamed, M.B. Punjab; Frederick Thomas Moore, M.R.C.S.; Horace Gordon Page, M.B. Edin.; William Mathias Quin, M.B. Edin.; Harold Roche Robertson, M.D. McGill; John Mannix Robins, M.R.C.S.; John Alfred Shepherd, M.D. St. And.; Max Leonard Slotover, L.R.C.P.I.; Kenneth James Talbot, M.B. N.Z.; Jacob Jozua van Niekerk, M.R.C.S.; and Edwin Perry White, M.D., Queen's Univ., Kingston.

Naval Medical Compassionate Fund

At the quarterly meeting of the directors of this fund, held on July 14, with Surgeon Rear-Admiral C. V. Griffiths, deputy medical director-general of the Navy, in the chair, the sum of £66 10s. was distributed among the several applicants.

Society of Apothecaries of London

At recent examinations the following candidates were successful :—

Surgery.—M. G. Braham, A. N. Coondoo, M. E. Davies, E. A. Griffiths, I. M. Monare, C. E. S. Myers, C. J. Pollard, D. Prysor-Jones, W. E. Roden, and W. N. Vellacott.
Medicine.—C. V. Arthur, J. J. Brenner, A. N. Kalra, S. T. Nakib, C. J. Pollard, S. A. Schuyler, W. Simpson, and A. T. M. Wilson.
Forensic Medicine.—C. V. Arthur, N. F. Bishai, J. J. Brenner, A. N. Kalra, S. T. Nakib, C. J. Pollard, S. A. Schuyler, W. Simpson, S. Smith, and A. T. M. Wilson.
Midwifery.—B. Gallivan, J. N. Hunt, A. G. McPhillips, N. A. St. C. Marley, T. Owen, C. J. Pollard, and D. Prysor-Jones.

The following candidates, having completed the final examination, are granted the diploma of the society entitling them to practise medicine, surgery and midwifery :—

C. V. Arthur, St. Mary's; N. F. Bishai, Birm. and West London; A. N. Kalra, Univ. Coll. Hosp.; I. M. Monare, Roy. Colls., Edin.; C. J. Pollard, Lpool and West London; S. A. Schuyler, Charing Cross; W. Simpson, St. Mary's; and S. Smith, Manc.

Royal College of Obstetricians and Gynæcologists

At a meeting of the council held on July 22 Prof. W. Fletcher Shaw was re-elected president, and Mr. Eardley Holland and Prof. Miles Phillips were elected vice-presidents. The following officers were also elected: hon. treasurer, Dr. J. P. Hedley; hon. curator of museum, Mr. Aleck Bourne; hon. librarian, Mr. Frederick Roques; and hon. secretary, Mr. G. F. Gibberd.

The following were admitted by the president :—

Fellowship.—Douglas Hamilton MacLeod (London).
Membership.—J. L. Cameron (London), W. M. Capper (Bristol), Anthony Charles (London), Alice E. Dickie (London), and C. M. Hopkins (Australia).

The following were elected to the membership :—

R. I. Ritchie (New Zealand), B. H. Anderson (Melbourne), A. W. Andison (Canada), G. W. Blomfield (Leeds), D. R. Cairns (London), W. D. A. Callam (Edinburgh), D. G. W. Clyne (London), Gilbert Dalley (London), D. S. Greig (London), T. N. Hart (Bolton), William Hawksworth (New Zealand), W. M. Lemmon (Melbourne), G. G. Lennon (Birmingham), F. H. Lord (Melbourne), Ruvin Lyons (Canada), T. A. MacFarlane (New Zealand), D. M. W. Maxwell (Windsor), Shivaprasanna Misra (Calcutta), C. V. Salisbury (Sydney), Everall M. Shippam (London), Richard de Soldenhoff (Lyme Regis), E. A. Thomas (India), G. B. Thomas (Lahore), S. L. Townsend (Melbourne), J. D. Watt (Romford), and Ella Windeyer (Sydney).

National Radium Trust

Mr. E. S. Hill has been appointed secretary of the Trust in place of Mr. R. Stanton, who has resigned the secretaryship on his promotion in the Ministry of Health.

London School of Hygiene and Tropical Medicine

On the results of the D.P.H. examination the Chadwick Trust prize has been awarded to Dr. R. C. Wofinden. On the results of the D.T.M. & H. examination the Duncan medal has been awarded to Dr. R. J. Riddell and the Lalcaca medal to Dr. D. A. Cannon.

Prize-giving at the Middlesex

On July 20 Sir Edward Mellanby, F.R.S., presented the prizes gained at the Middlesex Hospital medical school at the Queen's Hall. Mr. S. A. Courtauld, chairman of the school council, presided, and Prof. W. B. Tuck delivered an address on the chemical elements. Dr. H. E. A. Boldero, the dean, said that for the whole year the work of the school had been carried on under the shadow of a national emergency. The Government plan for the treatment of casualties had its advantages as regards clinical teaching in that Middlesex physicians and surgeons would be attached to the various hospitals of sector 5, and students would be able to go to the same hospitals. The preclinical students who had done two terms of anatomy and physiology would go to a university in the west of England, and their teachers would go with them. It had been a remarkable year, he said, in the way of research, striking work having been done at the Bland-Sutton Institute, under the leadership of Professor McIntosh, on M. & B. 693, and at the Courtauld Institute, under the direction of Professor Dodds, on stilbœstrol. The new block of school buildings was nearing completion and would be ready for occupation at the beginning of next term. A sum of £20,000 was still needed to pay for the new buildings.

University College Hospital

The Bilton Pollard fellowship has been awarded to Dr. M. L. Rosenheim.

Postgraduate Orthopædic Course in Paris

A postgraduate course on "technique chirurgicale concernant l'appareil moteur" will be held at the Faculty of Medicine in Paris from Oct. 16 to Nov. 4. The lecturers will include Prof. L. Ombrédanne and Prof. Paul Mathieu. Further information may be had from Prof. Mathieu at Hôpital Cochin, Paris.

National Hospital, Queen Square, London

Two courses of lecture demonstrations on neurology will be held at this hospital, one from October to December and one from January to March. Further particulars may be had from the dean of the medical school.

International Council of Ophthalmology

Prof. J. Meller (Vienna) has been nominated president of the next congress of the council, which is to be held in Paris in 1940 on the day before the opening of the annual meeting of the Société Française d'Ophtalmologie. The main subjects for discussion will be plastic operations on the eyeball and the pathology of retinal detachment. An international standard for the determination of the axes of astigmatism will also be considered at the congress.

Royal Society of Medicine

The Royal Society of Medicine has made the ninth award of the William Gibson research scholarship for medical women to Miss Diana Kinloch Beck, who is working at the Radcliffe Infirmary, Oxford, for her proposed research on the cerebral vascular system in relation to cerebral aneurysms and their surgical treatment.

Royal East Sussex Hospital, Hastings

At a meeting on July 11 the general committee of this hospital decided to close one large and three small wards, and seven clinics in the outpatient department. The hospital has an overdraft of over £36,000 and an ultimatum has been received from the bank that this must be reduced by £2500 by the end of the year. The money can only be found by revising the ordinary expenditure. Special arrangements have been made in the outpatient department to deal with members of the benevolent fund and other contributory schemes, and the agreements with local authorities will also be unaffected by the changes. A special committee has been formed to launch an appeal for funds. Last year's income was £28,000; a further £6000 will be required annually if the wards and clinics are to be reopened.

International Congress for Radiology

The sixth International Congress for Radiology will take place in Berlin from July 31 to Aug. 4, 1940. General subjects proposed for discussion include special methods of examination in radiological diagnosis; and the development of therapeutic methods, their achievements and the demarcation of their indications. A series of lectures will describe the present state of knowledge as regards the effect of rays on the living cell, and the development of radiophysics. The congress will also meet in the following sections: radiological diagnosis; radiotherapy; radiobiology; physics and technique; and electrology and light. Further information may be had from the secretary-general, Prof. W. Baensch, Liebigstrasse 20, Leipzig, C.1.

University of Basle

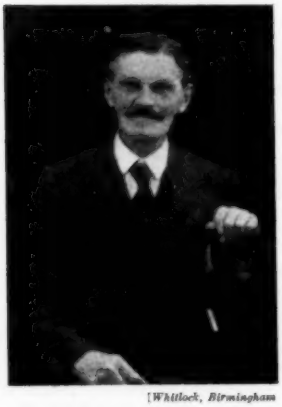
On the occasion of the inauguration of the new university buildings the honorary degree of M.D. was conferred upon Dr. Max Hartmann of St. Gall, chief of the research laboratories of the Ciba works at Basle. It was Dr. Hartmann's interest in the chemical aspect of biological problems which inspired his activity in the field of chemotherapy and led him first to the discovery of the properties of Coramine, then to the isolation of the hormones of the corpus luteum, and more recently to the isolation of substances regulating arterial tension. Two derivatives of this latter group are now available for clinical use. The medical faculty of Basle has recognised the high scientific standard maintained in the chemo-pharmaceutical research laboratories which has enabled them to render signal service both to practical medicine and the advancement of medical science.

OBITUARY

WILLIAM ALEXANDER POTTS

M.A. CAMB., M.D. EDIN. AND BIRM.

Dr. W. A. Potts, who died on July 23 at his home in Edgbaston, Birmingham, at the age of 73, will be chiefly remembered in his capacity as psychological adviser to the Birmingham justices. It was in the year 1919 that Mr. Gerald Blesley, deputy chairman of the Birmingham bench, suggested that a physician with expert knowledge of psychiatry should be attached to the court with whom the justices could take counsel. The suggestion was based on the example of Chicago where in 1914, at the instance of chief justice Harry Hobson, a psychopathic laboratory was instituted under the direction of W. J. Hickson which demonstrated the utility of psychiatric assistance in deciding on the treatment of offenders. Later that year the prison commissioners appointed Hamblin Smith whole-time medical officer to Birmingham prison and Potts was attached to the court to advise where accused persons were remanded on bail or charged on summons. Thereafter, when an alleged offender was suspected of being mentally abnormal, the court agreed to postpone action until a full medical inquiry had been made. Potts was regularly to be seen about the police-courts offering advice in a difficult case and more formal evidence under mental-deficiency procedure. To the casual glance he was cold, aloof and official in manner but the dour exterior scarcely hid a gentle and painstaking spirit, anxious to relieve human distress.



[Whitlock, Birmingham

By education and upbringing Potts was singularly qualified for his task. Coming of a well-known family of brass-founders in Birmingham, his father was a schoolmaster and he was himself trained to be a pedagogue until his father's death when he was 23 left him free to study medicine. He had been headboy at Fettes under his father's headship, had taken honours at Emmanuel in the mathematical tripos, and had taught at Bilton Grange, Rugby. He won a Thomson bursary to Edinburgh and after qualifying in 1895 was house-surgeon to William Annandale, after which a year spent at the East Riding mental hospital gave the turn to his career, for he discovered there that the mentally defective was not unamenable to moral suasion. After further resident experience at Edinburgh he went into partnership at Edgbaston with W. S. Mann, whose third daughter he married in 1899. They had four sons, one of whom is now a doctor and one a schoolmaster. He had twenty years in busy general practice, becoming physician to the Maternity Hospital and lecturing on pharmacology in the University, and these years confirmed his growing interest in the mental and physical equipment of the adolescent and its effect on conduct.

When the Royal Commission on the care and control of the feeble-minded was constituted in 1904 and it was decided to make regional investigations into the incidence of feeble-mindedness in the general population in selected areas, Potts was chosen to carry out this survey in Birmingham and neighbourhood. Through the enthusiasm of Mrs. Hume Pinsent, Birmingham had done pioneer work, before the 1899 act, in the education of feeble-minded children, and in due course Potts became chairman of the special-schools aftercare committee, where he was closely associated with G. A. Auden. The commission's report led to the Mental Deficiency Act, 1913, and it was then that Potts's long experience and detailed knowledge marked him for medical adviser to the Birmingham mental-deficiency committee—an appointment which he held until within a few weeks of his death. His energies were not confined to the routine duties of this office; he was in request as a speaker and lecturer, whether to teachers on the springs of delinquency or to parents on the adventure of adolescence. He collaborated with G. E. Shuttleworth in the later editions of "Mentally deficient Children," his chief contribution being the chapter on the psychopathies of puberty and the severance of juvenile delinquency from the hazy notion of moral imbecility. He also acted as adviser to the Great Barr Park colony and to the mental wards of the Hallam Hospital. Later he became consultant to the Royal Albert Institution at Lancaster and the Tavistock Clinic in London. Everywhere he was a courteous and kindly colleague who did his duty with a full sense of his responsibilities to the individual under examination and to the public whom he served—and this in spite of increasing physical disability from progressive osteo-arthritis.

Dr. Freize Stephens writes: "To those who met Dr. Potts for the first time in the last ten years of his life his unfailing courage must have been a source of continual admiration, for often, when obviously racked with pain, he would insist on going a tiring journey to comfort some patient who had consulted him, or to attend a medical meeting on some topic dear to his heart, or to support a young colleague reading his first paper to a learned society's gathering, and on all those occasions to the anxious inquiry of an older colleague would come the challenging reply: 'There's nothing wrong with me. I'm all right—quite all right.' It was the same spirit of defiance which stood him in good stead in those early pioneering days that he devoted so ardently to the welfare of the mentally defective and juvenile delinquent. His courage and his gentle forbearance of ignorance and ridicule were the outstanding characteristics of his life; he would never accept defeat, and when all seemed lost he would quietly marshal his forces again and march them on to an abiding success. Today we appreciate and value the results of those achievements in the surer understanding of the problems involved, in the better provision for the institutional and community care of the feeble-minded, and in the humane clauses of the Criminal Justice Bill—we appreciate these successes and forget the disappointing delays, the long and tedious discussions, the patient bouts with wilful misunderstanding and dull authority, and the interminable and often most unnecessary investigations and inquiries which eventually led to those triumphant results. In the light of what has happened it is interesting to note that Potts was successively a schoolmaster, an assistant medical officer in a mental hospital, a general practitioner of over twenty-years standing, and the chairman of the aftercare committee of the special schools of Birmingham before he decided to enter

the civic arena in order to gain statutory recognition for his psychological ideals. So long and patient an apprenticeship was surely worthy of a great psychologist, and a great psychologist he was without a doubt. Many an honour he received testified to this fact but his most treasured possession was the gratitude of his poorest patients, outcasts of the city, to whose homes a visit from Dr. Potts made a day of splendid memory. He too delighted in those visits, and to the end they remained his happiest activity."

HUGH NEVILLE TAYLOR

M.A. CAMB., M.D. DUBL., F.R.C.S.E.

Dr. Neville Taylor died on June 28 at Newport, Mon., whither he had retired three years ago from his life-work at Ebbw Vale. Born at Colteshall, Norfolk, and educated at Oundle, Taylor gained first-class honours in 1883 in the natural sciences tripos at Cambridge and went on to Edinburgh where he qualified in 1891, later taking the F.R.C.S.E. After a further period at Trinity College, Dublin, he settled in practice at Llandovery. About 30 years ago he accepted appointment as surgeon to the Ebbw Vale general hospital which was then run by the workmen's medical society of which he became president. This venture, which was at first in the nature of an experiment, was attended with remarkable success and Taylor gradually extended his sphere of influence in the neighbourhood. On the death of Dr. J. W. Davies he became medical officer of health and school medical officer under the urban district council, which he induced to appoint a separate committee for health and sanitary matters. Under his direction many important improvements took place including a reorganisation of the water-supply. After giving up his official position he was elected to the council for the central ward, securing 1438 out of a total of 1500 votes, having conducted his election campaign without outside help. He soon became chairman of the health committee and also of the parliamentary committee. Early in his professional life Dr. Taylor married Ethel Winifred Hughes-Morgan and together they worked without ceasing for the betterment of one of the most distressed areas in the country. Some revival of industry has now come to the valley and it was a satisfaction to Taylor that he lived long enough to see the beginnings of that revival.

Taylor was a barrister-at-law and medical referee for the Ministry of Pensions; during the war he served with the rank of major in the R.A.M.C.(T.), and in his early days he contributed a number of clinical notes on interesting cases to the medical journals. His position at Ebbw Vale came under some criticism from colleagues who could not fail to recognise not only his great ability but also his high ideals and sense of professional ethic.

WILLIAM EDMUND COOKE

M.D. LPOOL, F.R.C.P.

Dr. Cooke, director of the pathological department at Wigan Infirmary, and an authority on diseases connected with coal-mining, died suddenly on July 20 at Euston Station. He was the son of Luther Cooke and was born at Aspull, Wigan, in 1881, being educated at Bullingham, Ampleforth, and Liverpool University, where he took his M.B. in 1904. During the years before the war his main interest was in tuberculosis. After a time at Walthamstow sanatorium he was head of Ochil Hills sanatorium and Coppins Green industrial sanatorium, doing some original work on the pathology and radiology of phthisis. He took the D.P.H. and the M.R.C.P.E. in state medicine in 1913, and during the war was first in charge of the isolation hospital at Aldershot and later served in Egypt. On his return he took over the pathological and bacteriological work at Wigan Infirmary, becoming also consultant pathologist to various sanatoria and borough councils in the neighbourhood and hon. medical adviser to the Wigan mining and technical college. Dr. Cooke was responsible for the section on anthracosis, asbestosis, and kindred conditions in the Encyclopædia of Medical Practice.

PANEL AND CONTRACT PRACTICE

Militiamen and Territorials

THE Minister of Health has decided that although militiamen are not entitled to medical benefit during the period of their service with the forces their names will not be removed from the lists of their insurance practitioners. Any question of reinstatement on discharge to civil life will not accordingly arise. The necessary financial adjustments are being effected centrally by reducing the amount of the medical pool. Officers and men of the reserve and auxiliary forces who are called up for service and were previously insured will continue to pay contributions at the full employed-contributor rate during their period of service, and will remain entitled to all benefits. Insurance practitioners must accordingly be prepared to provide treatment for any such men included in their lists who may need it. The period of service in the Territorial Army, the Royal Naval Volunteer Reserve and the Auxiliary Air Force will be about a month, and in the Army Reserve, the Royal Fleet Reserve and Air Force Reserve about three months.

Expensive Drugs

The Minister of Health, as we report on another page, denied that he had refused to allow M. & B. 693 to be used for the treatment of insured persons. He was asked if it was not a fact that when he was requested to put this remedy on the special list of expensive drugs he had said that he could not allow this but in a year's time when the price of the drug was reduced he would consider it. Mr. Elliot replied that this drug is available, always has been available and always will be available to insured persons, and the suggestions that it is not are totally unfounded and, what is more, dangerous to the health of the public.

The main point is whether practitioners who dispense for insured patients must provide this drug as part of their obligation or whether they should be allowed to make a supplemental charge on the ground of its expense. According to the report of the June meeting of the insurance acts committee the Minister had been asked to include M. & B. 693 or any approved substitute in the list of drugs appended to the second part of the distribution scheme. This list serves a twofold purpose. It sets out the drugs and appliances which may be either prescribed by or supplied by practitioners who ordinarily issue prescriptions, and it is also a list of drugs and appliances which if supplied by a dispensing doctor are not regarded as falling within the quarterly payment,

now 7¼*d.* per patient. Thus a doctor is entitled to be paid for any of the items included in this list which he supplies to his patient whether he is a prescribing or dispensing practitioner. The departmental view was that it was unlikely that the present price of the preparation would be maintained and therefore the question should be deferred for twelve months, but it was added that the Minister had in the past given and would continue to give favourable consideration for special payment in respect of the supply of the preparation.

Vacancies

For further information refer to the advertisement columns

Ashton-under-Lyne, Lake Hosp.—Res. obstet. O., £350.
Bedford County Hosp.—First and second H.S., at rate of £155 and £150 respectively.
Birmingham City Education Committee.—Asst. school M.O., £500.
Birmingham, Dudley Road Hosp.—Jun. M.O., at rate of £200.
Birmingham, Monyhull Colony Mental Deficiency Institution.—Med. supt., £1000.
Bristol Royal Infirmary and Bristol General Hosp.—Locum tenens, at rate of £500.
Bristol University.—Asst. lectureship in pathology, £300.
Buckburn, Aberdeenshire, Rowett Research Institute.—Head of physiology department, £800.
Cardiff, King Edward VII Welsh National Memorial Association. Three half-time asst. tuberculosis O.'s, each £250. Also asst. res. M.O. for Sully Hosp., £200.
Chester, Barrowmore Tuberculosis Sanatorium and Settlement, Great Barrow.—Jun. asst. M.O., £200.
Chester City Hosp.—Jun. res. M.O., at rate of £150.
Derbyshire Education Committee.—Asst. school M.O., £500.
Dorchester, Dorset County Hosp.—H.S., at rate of £150.
Dorset County.—M.O.H., £800.
Dover, Royal Victoria Hosp.—Two R.M.O.'s, each £140.
Dudley, Guest Hosp.—Res. surg. O., at rate of £250–£300. Also H.S., £150.
Dumfries County Council.—County bacteriologist, £650.
Durham County Hosp.—H.S., at rate of £150.
*Elizabeth Garrett Anderson Hosp., Euston Road, N.W.*1.—Hon. asst. anæsthetist, 10 guineas.
*French Hosp. and Dispensary, 172, Shaftesbury Avenue, W.C.*2. Res. M.O., £100.
*Golden Square Throat, Nose and Ear Hosp., W.*1.—House anæsthetist, £150.
His Majesty's Colonial Service.—Two health officers for British Guiana, each £650.
Huddersfield Royal Infirmary.—Cas. O., at rate of £200.
*King Edward Memorial Hosp., Mattock Lane, Ealing, W.*13.—Cas. O. and H.S., at rate of £150.
Liphook, Hants, King George's Sanatorium for Sailors.—Asst. M.O., at rate of £200.
Liverpool University.—Demonstrator in physiology, £300.
*London Chest Hosp., Victoria Park, E.*2.—H.P., at rate of £100.
*London Hosp., E.*1.—Surgical first asst. and reg., £300. Also first asst. and reg. to ear, nose and throat depts., £150.
*London University, W.C.*1.—William Julius Mickle Fellowship, £200.
*Maida Vale Hosp. for Nervous Diseases, W.*9.—H.P., at rate of £100.
Maidstone, West Kent General Hosp.—H.P. and H.S., each £175.
Manchester, Christie Hosp. and Holt Radium Institute, Withington. Res. M.O., at rate of £150.
Manchester, Royal Children's Hosp., Pendlebury.—Res. surg. O. and asst. M.O. for outpatients' dept., each at rate of £150.
Manchester Royal Infirmary.—Jun. asst. M.O. for radiological dept., £350. Also asst. M.O. for massage and electric dept., £100.
Manchester, Saint Mary's Hosps.—Res. obstet. O. for Whitworth Street Hosp., £150. Asst. res. obstet. O. for Whitworth Street Hosp. and jun. res. anæsthetist, each at rate of £100.
Middlesbrough County Borough.—Deputy M.O.H., £750.
Newcastle General Hosp., Joint Committee's Clinic.—H.S. and jun. clin. asst., £250.
Newcastle-upon-Tyne Hosp. for Sick Children.—H.P. and two H.S.'s, each at rate of £100.
Newcastle-upon-Tyne, Royal Victoria Infirmary.—Res. M.O., £350. Also sen. accident room H.S., £150.
Newport, Mon., Royal Gwent Hosp.—Cas. O., at rate of £175.
Portsmouth Royal Hosp.—Cas. O., at rate of £130.
Prescot, Whiston County Hosp.—Sen. res. M.O., £400.
Preston, Sharoe Green Hosp.—Jun. asst. res. M.O., at rate of £100.
*Queen's Hosp. for Children, Hackney Road, E.*2.—H.S. and cas. O., each at rate of £100.
Reading, Royal Berkshire Hosp.—Res. anæsthetist, at rate of £250. Also res. M.O., at Blagrave Branch Hosp. and asst. to pathologist (combined post), at rate of £150.
Rotherham County Borough.—Asst. M.O.H., £600.
Royal Army Medical Corps.—Vacancies.
*Royal Eye Hosp., St. George's Circus, S.E.*1.—Sen. H.S. and two asst. H.S.'s, at rate of £150 and £100 respectively.
*Royal Free Hosp., Gray's Inn Road, W.C.*1.—Clin. asst. in gynæcological dept. Res. cas. O., at rate of £150. Also first asst. in children's dept., £100.
Royal Naval Medical Service.—Medical officers.
*St. Mary's Hosp., W.*2.—Jun. asst. radiologist, at rate of £75.
*St. Thomas's Hosp., S.E.*1.—Temp. res. asst. physician, at rate of £225.
Sheffield City.—Asst. tuber. O. for Winter Street Hosp., £350.
Sheffield, Royal Infirmary and Hosp.—Res. H.S. to ophth. dept., at rate of £80–£120.
Southampton Children's Hosp. and Dispensary for Women.—Res. M.O., at rate of £150.
Southampton, Isolation Hosp. and Sanatorium.—Jun. res. M.O., £200.
Southampton, Royal South Hants and Southampton Hosp.—Sen. H.S., £200. Also res. anæsthetist and H.S. to general surgical and ear, nose and throat wards, each at rate of £150.
Torquay Borough.—Deputy M.O.H. and asst. school M.O., £600.
Truro, Royal Cornwall Infirmary.—H.P., £120.
Wakefield City.—Jun. asst. M.O., £500.
Walsall General Hosp.—Res. surg. O., £300.
West Riding of Yorkshire County Council.—Asst. bacteriologist, £650.

Appointments

AINSCOW, C. B., M.B. Manc., assistant school medical officer for Derby.
BODKIN, KATHLEEN M., M.R.C.S., D.P.H., assistant medical officer of health and school medical officer for Hendon.
BULL, J. W. D., M.B. Camb., M.R.C.P., D.M.R., hon. radiologist to the Maida Vale Hospital for Nervous Diseases.
CLIFF, MARGUERITE E., M.D. Manc., D.P.H., senior assistant medical officer of health for Staffordshire.
COLLINS, G. H., M.B. Glasg., junior assistant medical officer at the Isolation Hospital, Romford.
COPE, R. W., M.R.C.S., D.A., anæsthetist to the Chelsea Hospital for Women.
CRIDLAND, NIGEL, B.M. Oxfd, D.O., hon. consulting ophthalmic surgeon to the Bognor Regis War Memorial Hospital.
*DAVIES, D. O., M.B. Lond., F.R.C.S., resident surgical officer at the Crumpsall Hospital, Manchester.
EVANS, BARBARA D. F., M.R.C.S., assistant pathologist at the Elizabeth Garrett Anderson Hospital, London.
*EVANS, W. G., M.B. Camb., D.P.H., medical officer of health and school medical officer for Canterbury.
JAMES, URSULA, M.B. Lond., medical registrar at the Elizabeth Garrett Anderson Hospital, London.
LAURIE, EDITH, M.B. Edin., D.P.H., assistant medical officer of health for Stirlingshire.
LEYSHON, V. N., M.B. Lond., D.P.H., assistant medical officer of health for Bristol.
MCLEOD, G. I., M.B. N.Z., resident medical officer at the Royal Northern Hospital, London.
NEWNS, G. H., M.D. Lond., M.R.C.P., assistant physician to the Princess Elizabeth of York Hospital for Children, London.
PEET, E. W., M.B. N.Z., F.R.C.S., hon. assistant surgeon to the ear, nose, and throat department of the Radcliffe Infirmary, Oxford.
PRATT, J. S., M.B. Camb., resident medical officer at the City Hospital, Chester.
REID, A. C., M.B., outpatient officer at the Royal London Ophthalmic Hospital.
ROSS, H. J. T., L.R.C.P.E., assistant resident medical officer in the tuberculosis section of the public health department, Birmingham.
STALLWORTHY, J. A., M.B. N.Z., F.R.C.S., M.R.C.O.G., hon. assistant obstetrician and gynæcologist to the Radcliffe Infirmary, Oxford.
STANFORD, SYDNEY, M.B. Lpool, junior assistant medical officer at the City General Hospital, Plymouth.
THOMPSON, S. M., B.Chir. Camb., F.R.C.S., surgical registrar at the Stanmore branch of the Royal National Orthopædic Hospital, London.
WHITE, R. A., M.R.C.S., resident medical officer at the King George Hospital, Ilford.
WILSON, A. H., M.B. Aberd., D.P.M., medical superintendent at Meanwood Park Colony, Leeds.
WISEMAN, D. C., M.B. Glasg., resident medical officer at the City General Hospital, Leicester.
WOODWARD, V. J., M.B. Lpool, D.P.H., assistant county medical officer of health for Derbyshire.

* Subject to confirmation.

"... The bad psychological effects of overcrowding of passengers will place a limitation on the size of long-range transport airplanes, it was reported at the San Francisco meeting of the American Society of Mechanical Engineers.... The most crowded condition is represented by a trip of six people in a small motor-car. About 114 cubic feet of space is available, or about 19 cubic feet per person. This is tolerable only for a group of friends or relatives with common interests and then only because the scenery is changing very rapidly near-by the car. High overhead in an airplane the scenery frequently is monotonous except on those particular flights which may traverse a mountainous region. Over-ocean flying is notoriously monotonous after the first few hours. It is probable, according to experts, that 19 cubic feet of space for each passenger is the lower limit at which passengers can be attracted to aerial transport."—*Science* (suppl.), July 14, 1939, p. 8.

NOTES, COMMENTS, AND ABSTRACTS

HOLIDAY RESORTS AND EVACUATION

SPEAKING at a conference of local authorities at Tunbridge Wells on July 19, Mr. Walter Elliot said that he saw no reason to believe that evacuation would have to take place during the holiday season, but if it had special difficulties would arise in holiday resorts. The Government's plan contemplated the dispersal of 3,000,000 people—mainly school-children with their teachers, younger children with their mothers, and expectant mothers—from the congested areas into relatively safer parts of the country in three or four days. This operation was so gigantic and complex that one railway timetable—that of the Southern Railway for the evacuation of 475,000 persons from London alone—ran to 130 pages of close printing. This timetable was only one of many. To try to arrange for varying numbers of evacuees to be delivered to holiday centres according to the season of the year would, he said, introduce an unworkable complication. People on holiday should not attempt to take their children back to an evacuable area if an emergency arose, but all who had essential work to do would be expected to return to their posts. There would inevitably be overcrowding in holiday towns at the beginning of an emergency, and for a short time the ordinary standard of one person per habitable room would have to be exceeded. The overcrowding would not last long because the evacuees would be redistributed.

The Minister said that the transfer of handicapped children, expectant mothers and blind persons would be possible only where special arrangements for their reception had been made in advance, but difficulties were being surmounted. For example, the London County Council had now been able to arrange for the reception in large houses and existing institutions of practically all handicapped children in their special schools. Householders would not be expected to accommodate expectant mothers except on the understanding that the confinement would take place elsewhere.

OVARIAN SYMPATHECTOMY

DESTRUCTION of the sympathetic nerve-supply to the ovary, like many other operations on the sympathetic nervous system, has been practised on grounds rather of pious hope than of exact knowledge. For example, R. Démarez and L. Devos (*Écho méd. Nord*, 1939, **10**, 233) base their advocacy of sympathectomy for certain ovarian lesions, particularly for sclerocystic ovaries, on the most meagre array of experimental evidence. They admit that little or nothing is known of the influence of the sympathetic on the functions of ovulation and menstruation, and on the blood-supply and sensibility of the ovary; and that operations on the ovarian sympathetic supply are often unsuccessful. Yet they then proceed to describe a large number of operations for the destruction of the ovarian sympathetic fibres either by section or by injection. The reader cannot avoid feeling that a more critical attitude towards such procedures would save a number of patients from unnecessary operations.

THE CHIROPODISTS' REGISTER

CHIROPODY is now a fully recognised and approved auxiliary medical service. It has a status equal to that of the chartered masseur or masseuse, radiographer and biophysical assistant. A degree of recognition was granted by the British Medical Association in July, 1938. The details of control and supervision are delegated to the Board of Registration of Medical Auxiliaries. This body is composed of representatives of the British Medical Association, the Society of Apothecaries of London, the Chartered Society of Massage and Medical Gymnastics, the Society of Radiographers, the Association of Dispensing Opticians and the Chiropody Group Council. The council last named was formed by the board to act as the qualifying body to control and regulate the entry of chiropodists to the National Register of Medical Auxiliary Services, which is published by the board.

In future, all chiropodists who satisfy the requirements of the board will be enrolled on this register. A minimum course of training of two academic years has been laid down to allow for adequate clinical experience. Chiropodists on the register have undertaken to confine themselves to their special subject, and not to treat anything below the level of the true skin, except under the direction and supervision of a medical practitioner. Advertisement is forbidden to them, except "the insertion (subject to approval of the Chiropody Group Council) of announcements in appropriate approved newspapers concerning commencement of practice." The registrable qualifications in chiropody are member, fellow or associate of the Incorporated Society of Chiropodists (M.I.S.Ch., F.I.S.Ch., and A.I.S.Ch.), and member, fellow or associate of the British Association of Chiropodists (M.B.A.Ch., F.B.A.Ch., and A.B.A.Ch.).

The register is supplied free to members of the medical profession; members of the public may obtain it on payment of 2*s*. It is published by the Board of Registration of Medical Auxiliaries, B.M.A. House, Tavistock Square, London, W.C.1.

TREATMENT OF LAMBLIASIS

RESEARCH on the treatment of lamblia infection has been stimulated by a realisation that the disease is by no means confined to tropical regions. A paper by M. Maffi (*Arch. Ital. Sci. Med. colon.* 1939, **20**, 70) describes many methods of treatment which have been in vogue: in some of these the aim has been direct intestinal antisepsis, as by bismuth or quinine; in others, use has been made of the indirect action of such drugs as neoarsphenamine or methylene-blue, through the liver and bile. Maffi has developed a scheme whereby Atebrin is given by mouth in doses of 0·30 to 0·10 g. (according to body-weight) daily for some five days. He has had uniformly good results in many cases, noting the disappearance of lambliæ, both vegetative and cystic forms, from the fæces. The treatment has caused no discomfort and he thinks that atebrin is now the remedy of choice in lambliasis.

DOCTORS INTO MIDWIVES

THERE is, at the moment, a shortage of pupil-midwives, so we must welcome the scheme of the Midwives Department of the Coördinating Committee for Refugees for placing women refugee doctors in midwifery training schools. They will train in these schools for two years, after which they will work for two further years as midwives in rural districts. The intention is that they should eventually emigrate. On starting their training, they each need a good English textbook of midwifery, and doctors who no longer use their standard works would be doing a kindness by forwarding them to the chairman, Midwifery Department, Bloomsbury House, W.C.1. Doctors with spare books but no spare time to despatch them, can drop a postcard to Bloomsbury House, when arrangements will be made to collect them.

GASTRO-ENTERITIS RESEARCH UNIT

A COMMITTEE was appointed in 1937 by the Medical Officer of Health for London to inquire into the ways of carrying out clinical and pathological research into the ætiology, transmission and treatment of gastro-enteritis in children. The committee suggested that a special unit should be established at a fever hospital for this purpose. This suggestion was discussed at a conference with representatives of the Medical Research Council in January of this year and it was recommended that a research team should be formed at the North-Eastern Hospital, South Tottenham, consisting of a whole-time non-resident clinician, a whole-time assistant pathologist and two laboratory

technicians. One of the resident medical officers will also work with the clinician, and the pathological work will be under the general direction of the pathologist of the group laboratory at North-Western Hospital, Hampstead. As the question of ward infection enters into the problem of spread, the unit will collaborate with Prof. H. D. Wright, of Liverpool, Dr. W. H. Bradley, of Cambridge, and Dr. Joyce Wright, of London, who are already engaged in the study of ward infections with the support of the Medical Research Council. Adequate laboratory and other facilities are already available at the hospital.

ILLEGITIMACY AND THE LEAGUE

THE League of Nations has just published a short study on the legal position of the illegitimate child in the principal countries of the world.[1] In the last few years there has been a change in public opinion on the illegitimate child, which is being regarded more as the innocent victim of the irregular position of its parents. It is being granted rights similar to those of the legitimate child, or alternatively social measures are improving its position.

The study opens with a historical survey. This is followed by an analysis of the various laws on the civil status of the illegitimate child, its name, nationality, and legal domicile, measures to prevent disclosure of illegitimacy in official documents, re-establishment of the legitimate status, and inheritance rights. There is a chapter on the unmarried mother's rights, including her right to maintenance. The last part of the book deals with social insurance laws (which, in many countries, are definitely favourable to illegitimate children) and with special social welfare measures, including public assistance and preventive health measures.

MEDICAL RESEARCH COUNCIL

THE council invite applications for a fourth series of studentships and fellowships in clinical science and experimental pathology intended to encourage young British medical graduates of special ability and original mind to become investigators in branches of medical science which are concerned directly with disease as it occurs in human beings. *Postgraduate studentships* are offered for medical graduates who have already held house-appointments and are strongly inclined to a career in clinical science or experimental pathology. Each selected student will receive a stipend at the rate of £200 per annum, during a period not exceeding twelve months, for personal maintenance while undertaking approved courses of study in this country to advance his training in methods of research. This study may include modern languages and advanced physiological, pathological, and special clinical work under recognised teachers; but the approved course may not include studies of which the purpose is to enable the student to pass further examinations. The council also offer *research fellowships* for candidates of similar qualifications who have already had some experience in the use of research methods. Each fellowship will be tenable for one year at the ordinary value of £250 per annum, and will be renewable in approved instances at the rate of £300 per annum for a second year. These fellowships are intended as probationary appointments for research in clinical science or experimental pathology under suitable direction in this country. Research expenses may be provided in addition to stipend. Applications should be lodged with the secretary of the council, 38, Old Queen Street, London, S.W.1, before Oct. 1.

INDEX TO "THE LANCET," VOL. I, 1939

THE Index and Title-page to Vol. I, 1939, which was completed with the issue of June 24, will be ready shortly. A copy will be sent gratis to subscribers on receipt of a postcard addressed to the Manager of THE LANCET, 7, Adam Street, Adelphi, W.C.2. Subscribers who have not already indicated their desire to receive Indexes regularly as published should do so now.

1. Study on the Legal Position of the Illegitimate Child. Document Ser. L.o.N.P. 1939. Pp. 194. 4s.

Births, Marriages and Deaths

BIRTHS

FINEGAN.—On July 22, the wife of Dr. G. A. Finegan, of Southgate, N.14—a daughter.

ROBERTSON.—On July 18, at Little Waltham, Essex, the wife of Dr. H. D. Robertson—a daughter.

ROFFEY.—On July 15, at Sevenoaks, the wife of Dr. Alec Roffey—a son.

THOMAS.—On July 14, the wife of Mr. J. M. Ridley Thomas, F.R.C.S.E., of Norwich—a son.

WIGGINTON.—On July 15, at Eltham, the wife of Dr. D. J. Wigginton—a daughter.

MARRIAGES

O'DONOVAN—GILL.—On July 22, at St. Columba's Catholic Church, Selsdon, Denis Kenry O'Donovan, M.B., of Dublin, to Phyllis Marjorie Gill.

ROBIN—CROFT.—On July 19, at St. Mary's, Lambeth, Ian Gibson Robin, F.R.C.S., to Shelagh Marian Croft.

SMITH—BELL.—On July 19, at St. Mary's Church, South Kensington, H. S. Cunningham Smith, M.R.C.S., to Rosemary Bell.

DEATHS

COOK.—On July 22, Herbert George Graham Cook, C.B.E., M.D. Lond., F.R.C.S., of Cardiff.

COOKE.—On July 20, William Edmund Cooke, M.D. Lpool, F.R.C.P., of Wigan.

MARETT.—On July 22, Philip Janvrin Marett, M.R.C.S., lieut.-colonel R.A.M.C. (retd.).

MARRIOTT.—On July 21, at Leicester, Cecil Edward Marriott, M.Chir. Camb., F.R.C.S.

POTTS.—On July 23, at Birmingham, William Alexander Potts, M.A. Camb., M.D. Edin., M.D. Birm.

ROBERTSON.—On July 18, at Storrington, John Robertson, M.A. Edin., M.D. Lond., aged 76.

TAYLOR.—On July 17, at Edinburgh, James Anderson Taylor, M.A. St. And., M.D. Edin., late of Dunkeld.

VALLANCE.—On July 21, at Lewes, Herbert Vallance, M.R.C.S., aged 73.

YOUNG.—On July 23, at Glasgow, Archibald Young, T.D., B.Sc., M.B. Glasg., F.R.F.P.S.G., regius professor of surgery in the University of Glasgow.

N.B.—A fee of 7s. 6d. is charged for the announcement of Births, Marriages, and Deaths.

STERNAL PUNCTURE.—Prof. John Plesch (London, W.1) writes: "In his article in your issue of June 17 on this subject Dr. Martin Hynes gives a brief survey of the history of bone-puncture. May I point out that in 1906 there appeared an article in No. 18 of the *Deutsche medizinische Wochenschrift*, under the title 'Probebohrung als Diagnostisches Hilfsmittel,' describing the method and its purposes?"

The fourth annual general meeting of the Ethical Pharmaceuticals Association was held in London on July 14, with Mr. A. W. Edwards, the chairman, presiding, who, in the course of his report, announced that three more firms had joined the association during the past year. He urged the importance of increasing the membership of the association still further if it was to play its part both in registering opposition to retrograde and unfair proposals and undertaking constructive measures on its own initiative in the interests of medicine and pharmacy in general and its own members in particular.

"... The Universities have unconsciously done an ill-turn to the service of biology as a national asset by favouring research at the expense of school teaching; the best men are usually guided into the paths of scientific investigation, and second raters are often looked upon as good enough for the services of scientific education and the investigations it so badly needs. Yet if there is any situation that requires re-examination in the nations today, it is the chasm between scientific progress and the knowledge and spirit to use that progress solely for the benefit of mankind. No certain method of bridging this gap is evident. But any reasonable suggestion is worthy of trial, and if, as has been suggested, the national teaching of biology is likely to create a scientific attitude of mind such that appreciation of the social and moral implications of science becomes second nature, then the best men and women are not too good for a task upon which may depend the ultimate progress of humanity."—*Nature, Lond.* July 22, 1939, p. 130.